

ENGINEERING

MANAGEMENT

LAW

# ANNUAL REPORT 2020



## OUR WORLD OF EXCELLENCE

WHERE EDUCATION BRIDGES THE GAP BETWEEN  
THE CLASSROOM AND THE REAL WORLD

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Disclaimer: The University does not intend, by the publication of this Annual Report to create any contractual or other legal relation with the students, their advisors or any stakeholders. The document is meant for internal circulation only.



## University at a Glance

The NorthCap University (Formerly Institute of Technology & Management) was founded in 1996 to promote excellence in technical and management education by the Educate India Society and was affiliated to Maharishi Dayanand University, Rohtak. The Institute gained the status of a University by an act of legislature from Govt of Haryana under the Haryana Private Universities (Third amendment) Act 25 of 2009. The University is recognised by the University Grants Commission under section 2(f), and has the right to confer degrees under section 22 of the UGC Act of 1956. The University is also recognized by the Bar Council of India. It encourages education that is Interdisciplinary and follows the best educational practices in the country.

The list of recognized Universities is available on the UGC website:

[www.ugc.ac.in/inside/privateuniversity.html#haryana](http://www.ugc.ac.in/inside/privateuniversity.html#haryana).

<b>Nature of University</b>	:	Multidisciplinary, Co-educational University offering Under Graduate, Post Graduate and Doctoral Programmes in Engineering, Management, Law, Applied Sciences and Humanities
<b>Established</b>	:	1996
<b>By</b>	:	Educate India Society
<b>Located</b>	:	In the industrial heartland of Gurugram, Haryana (located 7km from Indira Gandhi International Airport, New Delhi)
<b>Campus Address</b>	:	Sector 23-A, Gurugram, Haryana, India, Tel.: +91-124-2365811-13 Email: <a href="mailto:ncu@ncuindia.edu">ncu@ncuindia.edu</a>
<b>Chancellor</b>	:	Mr. V Daulet Singh
<b>Pro-Chancellor</b>	:	Prof. Prem Vrat
<b>Vice-Chancellor</b>	:	Prof. H B Raghavendra
<b>Registrar</b>	:	Col. Bikram Mohanty (Retd.)
<b>Student Population</b>	:	Under Graduate: 2703, Post Graduate: 119 Doctorate 155
<b>Gender Profile</b>	:	Male - 70%, Female -30%
<b>Faculty</b>	:	169
<b>Scholarships</b>	:	Merit cum means and Merit based Scholarships awarded

## Vision, Mission & Core Values

### Vision:

*To be known globally for learning innovations, academic excellence and socially relevant research outcomes; strive to become the preferred destination for students, faculty, employers and collaborators & pride of alumni and the community.*

### Mission:

1. Focus on quality of learning and innovation in all programmes with rigour and relevance.
2. Develop competent professionals - innovative, analytical and independent; committed to excel in all their endeavours.
3. Develop linkages globally with government, industry, academia and alumni for knowledge generation, dissemination and application.
4. Encourage multi-disciplinarity in programmes and projects to explore new frontiers of knowledge.
5. Continuously improve physical, academic and information infrastructure in pursuit of academic excellence.
6. Create a nurturing environment for lifelong learning.
7. Focus on entrepreneurship and socially relevant projects.

### Core Values:

1. Integrity in all endeavours.
2. Humility, compassion and concern for all.
3. Passion for quality and excellence.
4. Quest for innovation.
5. Leadership and Team Spirit.
6. Autonomy with Accountability.
7. Perseverance.




## Visitor of the University



**Hon'ble Mr Satyadev Narayan Arya**

Governor of Haryana

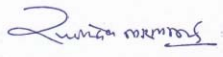


हरियाणा राज भवन,  
चण्डीगढ़ - 160019  
HARYANA RAJ BHAVAN,  
CHANDIGARH - 160019

**सन्देश**

मुझे यह जानकर अत्यंत हर्ष हो रहा है कि नार्थकैप विश्वविद्यालय गुडगांव गुणवत्ता की शिक्षा उपलब्ध करवाने में एक अग्रणी विश्वविद्यालय है। यह विश्वविद्यालय इंजीनियरिंग, विज्ञान, प्रबंधन और कानून में स्नातक और स्नातकोत्तर स्तर पर शोध को बढ़ावा दे रहा है। नार्थकैप विश्वविद्यालय प्रयोगशालाओं के साथ-साथ उद्योग इंटर्नशिप के माध्यम से छात्रों को व्यावहारिक अनुभव भी करवाता है। विश्वविद्यालय द्वारा शिक्षा के क्षेत्र में किए जा रहे प्रयास सराहनीय हैं। नार्थकैप विश्वविद्यालय परिसर में पूरी तरह रैगिंग मुक्त वातावरण है। यह विश्वविद्यालय उत्कृष्ट प्लेसमेंट की व्यवस्था भी करवा रहा है। विश्वविद्यालय आधुनिक पाठ्यक्रम, वैश्विक आधारभूत संरचना और गुणवत्ता संकाय के साथ एकेडमिक विकास के प्रतिबद्ध है।

मैं नार्थकैप विश्वविद्यालय के शिक्षकगण और छात्रों को शुभकामनाएं प्रदान करते हुए विश्वविद्यालय के उज्जवल भविष्य की कामना करता हूँ।

  
(सत्यदेव नारायण आर्य)

## Governing Body



**Mr V Daulet Singh**  
Chancellor



**Prof. Prem Vrat**  
Pro-Chancellor  
Professor of Eminence & Chief Mentor



**Prof. H B Raghavendra**  
Vice-Chancellor  
Member



**Mr Shiv Saran Mehra**  
Founder and Member  
Governing Body



**Mr Avdhesh Mishra**  
Founder and Member  
Governing Body



**Mr Ankur Gupta (IAS)**  
Principal Secretary  
Higher Education Department  
Govt. of Haryana



**Mrs Kavita Mishra**  
Founder and Member  
Governing Body



**Mr Rajesh Marwaha**  
Chartered Accountant  
and Member Governing Body



**Mr Venkatesh Sarvasiddhi**  
Senior Digital Skills & Technology  
National Skill Development Corporation



**Col. Bikram Mohanty (Retd)**  
Registrar  
Member Secretary



# Academic Advisory Board

## External Members



**Mr Analjit Singh**  
Padma Bhushan  
Founder Chairman,  
Emeritus of Max Group



**Mr Suresh C Rajpal**  
Chairman & CEO,  
Visnova Solutions, Noida  
Former President & CEO  
Hewlett-Packard (India)



**Mr Indu Bhaskar**  
Scientist G & HOD,  
Department of Scientific  
& Industrial Research,  
Team Leader



**Prof. Kehar Singh**  
Ex-Dean & Emeritus  
Fellow, IIT Delhi  
SS Bhatnagar Awardee



**Prof. AS Brar**  
Former Vice-Chancellor  
Guru Nanak Dev  
University,  
Amritsar, Punjab



**Hon'ble Justice  
M Karpaga Vinayagam**  
Former Chairperson –  
Appellate Tribunal  
for Electricity



**Prof. RC Budhani**  
Professor, IIT Kanpur  
Former Director  
National Physical  
Laboratory, New Delhi



**Prof. SG Deshmukh**  
Director ABV-IIITM  
Gwalior  
Professor, IIT, Delhi



**Mr Satish Kaura**  
Padma Shri  
Chairman  
Samtel Color Ltd



**Dr Devi Singh**  
Former Vice-Chancellor,  
FLAME University, Pune  
Former Director-IIM,  
Lucknow



**Prof. KL Chopra**  
Padma Shri  
Former Director,  
IIT Kharagpur,  
SS Bhatnagar Awardee



**Prof. Karmeshu**  
Former Prof & Dean,  
School of Computer  
& Systems Sciences,  
JNU, New Delhi  
SS Bhatnagar Awardee



**Prof. Pradeep Kumar**  
Professor, IIT, Roorkee  
Former Vice-Chancellor,  
Delhi Technological  
University, New Delhi



**Prof. Ranbir Singh**  
Vice-Chancellor  
National Law University,  
New Delhi



**Mr Vishnu R Dusad**  
CEO & MD,  
Nucleus Software  
Exports Ltd, Noida



**Dr Girdhar J Gyani**  
Director General,  
Association of  
Healthcare Providers  
(India)



**Mr Mangu Singh**  
Managing Director,  
DMRC, New Delhi



**Mr Bunty Peerbhoy**  
Director,  
Maa Group Holdings



**Mr Vikram S Mehta**  
Chairman,  
Brookings India &  
Former Chairman,  
Shell Companies  
in India



**Prof. TK Datta**  
Dogra Chair  
& Emeritus Professor,  
Dept. of Civil  
Engineering, IIT, Delhi



**Mr Ajai Chowdhry**  
Padma Bhushan  
Founder – HCL,  
New Delhi



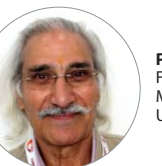
**Prof. Siraj S Hasan**  
Distinguished Professor  
and former Director,  
Indian Institute of  
Astrophysics, Bangalore



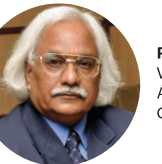
**Dr PS Rana**  
Chairman & MD,  
Pathera Developers &  
Former Chairman & MD,  
HUDCO



**Dr Krishan Lal**  
Former Director,  
NPL, New Delhi &  
DST Ramanna Fellow



**Prof. SK Kak**  
Founder Vice-Chancellor  
Mahamaya Technical  
University, Noida



**Prof. PB Sharma**  
Vice-Chancellor  
Amity University,  
Gurgaon

## Board of Management



**Prof. HB Raghavendra**  
Vice-Chancellor



**Mr Avdhesh Mishra**  
Founder and Member,  
Governing Body



**Mr Shiv Saran Mehra**  
Founder and Member,  
Governing Body



**Mr Ankur Gupta (IAS)**  
Principal Secretary,  
Higher Education Department  
Govt. of Haryana



**Ms Neera Makhija**  
Founder and Member,  
Governing Body



**Mr Z Daulet Singh**  
Founder and Member,  
Governing Body



**Mr N K Dewan**  
Founder and Member,  
Governing Body



**Prof. Swaran Ahuja**  
Dean, (Academics)



**Dr Swaranjeet Arora**  
Head,  
School of Management



**Dr Ambika Devi**  
Head,  
Department of  
Applied Sciences



**Dr Rekha Vig**  
Dy. Dean (Academics),  
UG



**Dr Archana Sarma**  
Head,  
School of Law



**Col. Bikram  
Mohanty (Retd)**  
Registrar,  
Member Secretary





## Academic Council



**Prof. HB Raghavendra**  
Vice-Chancellor,  
Chairman



**Prof. Prem Vrat**  
Pro-Chancellor,  
Professor of Eminence  
& Chief Mentor



**Prof. SD Joshi**  
Professor,  
Dept. of Electrical  
Engineering,  
IIT Delhi



**Mr Indu Bhaskar**  
Scientist G & HOD,  
Department of Scientific  
& Industrial Research,  
Team Leader



**Prof. JI Gupta**  
Former Vice-Chancellor  
G.G. University & Principal,  
Shri Ram College of Commerce



**Prof. V. G. Hegde**  
Professor, Centre for  
International Legal Studies,  
JNU, New Delhi



**Prof. Rajesh Chadha**  
Program Director –  
Natural Resources,  
Brookings Institution  
India Centre, New Delhi



**Dr Swaranjeet Arora**  
Head,  
School of Management



**Prof. Swaran Ahuja**  
Dean (Academics)



**Dr Kavita Khanna**  
Head,  
Department of  
Computer Science  
Engineering and  
Information Technology



**Dr Sharda Vashisth**  
Head,  
Department of Electrical,  
Electronics and  
Communication Engineering



**Prof Ram Karan Singh**  
Head,  
Department of Civil & Environmental Eng.  
Dean, (RDIL) &  
PhD Studies



**Dr Ambika Devi**  
Head,  
Department of  
Applied Sciences



**Dr Archana Sarma**  
Head,  
School of Law



**Dr. Divyabha Vashisth**  
Officiating Head,  
Centre for Language Learning



**Dr. Rekha Vig**  
Dy. Dean (Academics)  
UG



**Dr. Rohit Singh Lather**  
Head,  
Department of  
Mechanical Engineering



**Col. Bikram  
Mohanty (Retd)**  
Registrar,  
Member Secretary



## Chief Guests at Convocations



*Late Dr APJ Abdul Kalam, Former President of India  
at ITM University Campus, Degree Distribution Ceremony- Class of 2010*



*Mr Analjit Singh, Chairman, Vodafone and Max New York  
Life Insurance, Chief Guest, Degree Distribution Ceremony-Class of 2009*



*Dr Surinder Kapur, Founder Chairman, Sona Group, Chief Guest,  
Degree Distribution Ceremony-Class of 2001*



*Shri Tarun Das, Director General, Confederation of India Industries (CII),  
Chief Guest, Degree Distribution Ceremony- Class of 2002*



*Padma Bhushan Prof SK Joshi, FNA, Former Director General, CSIR,  
Chief Guest, Degree Distribution Ceremony- Class of 2003*



*Mr Vikram Singh Mehta, Chairman, Brookings India &  
Former Chairman, Shell Companies in India, Chief Guest,  
Degree Distribution Ceremony-Class of 2011*



*Hon'ble Mr Justice AK Patnaik, Judge, Supreme Court of India,  
Chief Guest, Convocation -Class of 2012*



*Prof. D P Agrawal, Chairman Union Public Service Commission,  
Govt. of India, Chief Guest, Convocation-Class of 2013*





*Dr Karan Singh, Member of Parliament (Rajya Sabha), presented the awards and Certificates of Excellence to the students - Convocation, Class of 2014*



*Shri Balmiki Prasad Singh, IAS (Retd), Ex-Governor Sikkim, Former Union Home Secretary and Executive Director, World Bank, Chief Guest, Convocation-Class of 2015*



*Dr Bibek Debroy, Padma Shri, Chairman, PM's Economic Advisory Council, Chief Guest, Convocation-Class of 2016*



*Hon'ble Governor of Haryana, Prof. Kaptan Singh Solanki, Chief Guest, Convocation - Class of 2017*



*Hon'ble Justice Dipak Misra, Chief Justice of India, Chief Guest, Convocation - Class of 2018*



*Gen. (Dr.) VK Singh (Retd.) (Minister of State - Road Transport & Highways) Chief Guest, Convocation - Class of 2019*

# Quality Benchmarks

	Established under Haryana Private University Act No. 25 of 2009 (Third amendment)
	Recognised by the University Grants Commission, Govt. of India, under Section 2(f) of the UGC Act 1956, and empowered to grant degrees under Section 22 of the Act.
	Recognised by the Bar Council of India, Govt. of India
	Ranked 5 <sup>th</sup> All India in the University Category in the Swachhta Ranking 2019 by MHRD, Govt of India
	University is accredited by the National Assessment and Accreditation Council (NAAC) for the period 2016-2021
	The University ranked 117 in All India NIRF Engineering ranking in the University Category, in the Rank Band 151-200 in the NIRF Ranking released by MHRD for the year 2019-20.
	Accredited by Accreditation Services for International Colleges (ASIC), United Kingdom, in the category of 'Premier' Universities, with 'Commendable' Grades, for 2016-2020
	The NorthCap University Testing Centre established as per ISO/IEC:17025-2005, is NABL Accredited for the Mechanical Testing of Building & Construction Materials.
	Member of Association of Indian Universities
	Member of the Association of Commonwealth Universities
	Institutional Member of American Society for Quality (India)
	Member of International Students Exchange Programme
	Recognised as the BEST@.govcampus
	Placed in the band "A" (Ranked 6th-25th) by ARIIA
	"3" Star Rating by (IIC)



## Rankings

The NorthCap University continues to nurture its ambition to be known globally for learning innovations, academic excellence and socially relevant research outcomes. It is driven by an ambition to be in the top of the league by embracing global best practices and championing the highest ethical standards.

- Ranked in Band "A" (Rank 6 to 25) in the Atal Rankings of Institutions on Innovation & Achievements (ARIIA) 2020
- MHRD led NIRF ranking 2020 placed NCU at 110th position, in the Engineering category and in the rank band of 151-200, in University Category
- NCU is ranked 5th in All India in the Non-Residential University Category 'Swachhta' Ranking 2019, by the Government of India
- Institution Innovation Council (IIC), established as per the norms of MHRD, is rated three stars in 2020.
- The University has persistently maintained its first position in Garden Competition during the Annual HUDA Flower Festival organized by Haryana Urban Development Authority (HUDA) for 19 years under Educational Institutional Category.



# Programmes

The NorthCap University has grown from strength to strength since its inception to become a unique university of higher learning in North India and has shown a determined commitment to academic development in India in general & Haryana in particular.

The University in its vision has stated to be known globally for learning innovations, academic excellence and socially relevant research outcomes. It strives to become the preferred destination for students, faculty, employers and collaborators & pride for the alumni and the community.

The University offers programmes in a wide range of professional fields in diverse areas of Engineering, Applied Science, Management & Law at the Under graduate, Post Graduate and PhD levels, approved by the relevant bodies and endorsed by Haryana State Govt., UGC and the Bar Council of India. The following programmes were offered in academic year 2020-21:

## I. SCHOOL OF ENGINEERING & TECHNOLOGY

### A. B.Tech (4 years)

#### Computer Science & Engineering (CSE)

Specialization options

- 1) Full Stack Development
- 2) Cyber Security & Forensics
- 3) Cloud Computing
- 4) Data Science and
- 5) Game Technology, Augmented Reality (AR) and Virtual Reality (VR)
- 6) Artificial Intelligence & Machine Learning
- 7) Blockchain

#### Electronics & Communication Engineering

Specialization Options

- 1) Internet of Things (IOT)
- 2) Embedded Systems and VLSI Design'

#### Mechanical Engineering

Specialization Options

- 1) Mechanical Engineering
- 2) Robotics & Automation

#### Civil Engineering

Specialization options

- 1) Infrastructure and Smart cities

### B. M.Tech

Degree in Computer Science & Engineering with specialization in:

- Cyber Security & Forensics
- Data Science

Degree in Electronics & Communication Engineering with specialization in:

- Communication Engineering
- VLSI Design

Degree in Mechanical Engineering with specialization in:

- Production & Industrial Engineering
- Thermal Engineering
- Mechanical Engineering Design

Degree in Civil Engineering with specialization in:

- Structural Engineering
- Construction Engineering & Project Management
- Environmental Engineering

#### C. BSc (Hons) Mathematics

#### D. BSc (Hons) Mathematics Specialization in Data Science

#### E. BSc (Hons) Physics

#### D. BSc (Hons) Chemistry

#### MSc Mathematics



## II. SCHOOL OF MANAGEMENT

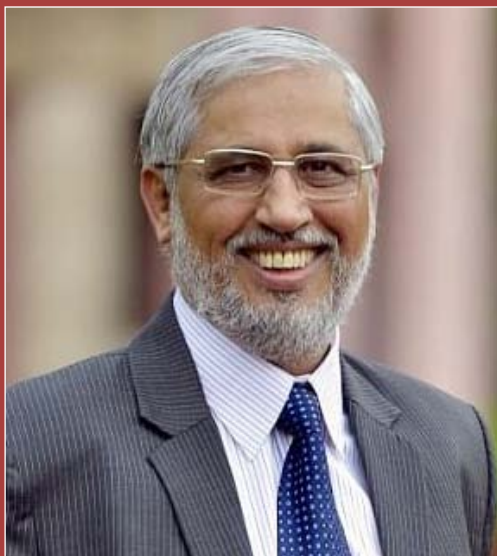
- BBA
- BBA Splz. in Digital Marketing
- BBA Splz. in Business Analytics
- MBA
- MBA Splz. in Business Analytics
- BA (Hons) Psychology
- BA (Hons) Economics
- BCom (Hons)

## III. SCHOOL OF LAW

- BBA-LLB (Hons)
- LLM
- Specialization Options 1. Corporate Law
- 2. Human Rights 3. Intellectual Property Rights (IPR)
- IV. PhD in Engineering, Management, Law, Sciences & English

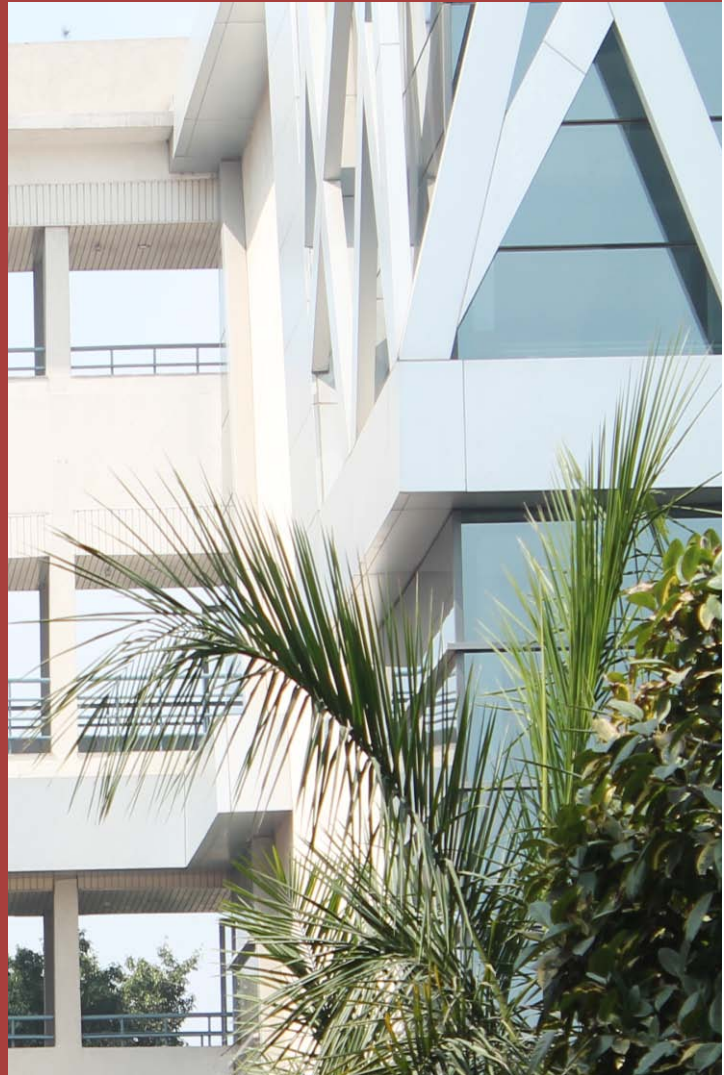


## The Chief Guest



**Prof. Anil D. Sahasrabudhe**

AICTE, Chairman



Prof. Anil D. Sahasrabudhe joined All India Council for Technical Education as Chairman on 17th July 2015.

Prof. Anil Dattatraya Sahasrabudhe, Professor of Mechanical Engineering at Indian Institute of Technology (IIT), Guwahati joined All India Council for Technical Education (AICTE) as Chairman on 17th July 2015. Prof. Anil D. Sahasrabudhe Graduated from BVB College of Engineering and Technology, Hubli affiliated to Karnataka University, Dharwad, Karnataka in Mechanical Engineering with First Rank and Gold medal in 1980. Subsequently, he obtained Master's and Doctoral (with UGC Fellowship) degrees from Indian Institute of Science (IISc), Bangalore in 1982 and 1989 respectively.

Prof. Anil Dattatraya Sahasrabudhe, Professor of Mechanical Engineering at Indian Institute of Technology (IIT), Guwahati is currently Chairman of All India Council for Technical Education (AICTE).

Prof. Anil D. Sahasrabudhe has held several important Academic, Research and Administrative positions at Indian Institute of Science, Bangalore, Tata Consulting Engineers, North Eastern Regional Institute of Science and Technology (NERIST), Itanagar (Arunachal Pradesh) and IIT Guwahati. He also served as Director, College of Engineering, Pune (CoEP) since 2006 on deputation from IIT, Guwahati prior to joining as AICTE Chairman. As an academican and researcher in NERIST and IIT Guwahati, and as an administrator in the capacity of Director, CoEP, he has taken up several new initiatives for Academic, Curricular & Co-curricular activities, Entrepreneurship, Research and Good Governance.

He is Chairman, Basic Scientific Research (BSR), Empowered Committee of UGC & SWAYAM Board. He is Fellow of ISTE, IET, Institution of Engineers (IE), INAE.

He has been bestowed with several awards which include "Maha-Intrapreneur Award-2011" of Praj Industries, Jeevan Gaurav Puraskar (Life Time Achievement Award) from MIT World Peace University, Pune in 2019, Mahatma Gandhi Leadership award from Indian Achievers Forum and CSRTimes (2019).

## Vice-Chancellor's Address



**Prof. H B Raghavendra**  
Vice-Chancellor

Honorable Chief Guest, Prof. Anil D Sahasrabudhe, Chairman AICTE; Chancellor, Shri V Daulat Singh; Members of Governing Body, Shri Avdhesh Mishra, Shri Shiv Saran Mehra, Shri Zorawar Daulat Singh; Pro-Chancellor, Prof Prem Vrat, distinguished colleagues, recipients of the degree, eminent alumni, faculty, staff, parents and students. Let me begin by saying good afternoon to everyone and wishing you a happy, safe, and prosperous year 2021.

To begin with, I wish to thank our Chief Guest, Prof. Anil D Sahasrabudhe, Chairman AICTE, for sparing his valuable time and for his consent to be the chief guest at this ninth convocation ceremony. In my capacity as the Vice-Chancellor, it is a matter of great honor and privilege to welcome you, sir, to the Ninth Annual Convocation of the University.

### Introductory

Sir, since our inception in 1996, The NorthCap University is striving hard to deliver education that transforms lives, contribute research that changes the world, and powerful partnership that create new avenues and possibilities to approach and handle the challenges from locally to globally. Today, we are here to acknowledge the great work done by our students, honor them with warm congratulations, and send them on their way to the real-life journey with the blessings and good wishes of NCU. In many ways, this convocation is unique and unlike any other convocation conducted by the University so far. The coronavirus-led pandemic has ushered in the age of virtual convocation and physical distancing. Our annual multi-day series of events became what we call- 'virtual-celebrations,' recorded and streamed via YouTube. Still, it does not diminish the pride and honour with which we are presenting the dedicated graduating students from our various academic programs who have earned their degrees by working hard.

### Vision and Accreditation

Sir, The NorthCap University, in pursuance of the vision of its founders, has become a self-reliant, visionary, and forward-looking name in higher education in India. With 3000+ current students and 15000+ well-connected alumni strength, NCU has earned a remarkable place in the country's top private universities list over the years. Established under Haryana Private University Act No.25 of 2009 (Third amendment), the University is recognized by the University Grant Commission, and Bar Council of India, Government of India. Further, it is accredited by the National Assessment and Accreditation Council (NAAC) and accolades by the Accreditation Services for International Colleges (ASIC), UK, as a premier university with 'commendable grades' for 2016-2020. Our centres of excellence span across the academic disciplines of Engineering, Management, Applied Science, and Law.

### Rankings

NCU achieved a new milestone in the innovation and entrepreneurship category by being ranked in Band "A" (Rank 6 to 25) in the Atal Rankings of Institutions on Innovation & Achievements (ARIIA) by Vice-President of India in August 2020. Further, the latest MHRD led NIRF ranking 2020 has placed the University at 110th position, in the Engineering category and in the rank band of 151-200, in University Category. Another matter of pride for us is that three of our senior professors, namely Prof. M S. Sodha, Prof. I. K. Verma, and Prof. P. Swamee, are figured amongst the world's top 2% scientists. This nomination is based on data created by experts of Stanford University, USA, based on standardized citation indicators.

Meanwhile, as recognition and appreciation of our active involvement for the cause of a clean, green environment and sustainable development, NCU has been ranked 5th in All India in 'Swachhta' Ranking 2019 under Non-Residential University Category, by the Government of India. Further, our dedicated cell for Social Entrepreneurship, Swachhta & Rural Engagement, is recognised for gearing up the work practices for environment, entrepreneurship, and community engagement.

### About the year 2020

Sir, I am equally pleased to present our University's Annual Report for the year 2020 before you. I shall only share the impressions of our report with you, defining our sustained focus on quality and the efforts we made during the year 2020 with a broad sketch of challenges and opportunities for the years ahead. The academic year 2020 will be remembered as the year that



the coronavirus pandemic jolted the academic life and swept away our best plans for everyday life at University. The pandemic has brought several transformations in our daily lives, most apparent in how we work and communicate. In late March 2020, anticipating the colossal calamity and dealing with the hurdles of unprecedented times, the University quickly responded through virtual mode. We underwent various transformations, including immediately switching the learning mode from classroom to e-learning and figuring out ways to keep our stakeholders and thought leaders connected through webinars, virtual labs sessions, Learning Management Systems (LMS), E-Portfolio, etc. Furthermore, we introduced five additional seats in all of our programs for these warriors' wards and established 'COVID19 Cell' to address student's grievances and to follow the required procedures and monitoring.

#### Research and Innovation

NCU supports research and knowledge creation activities among its students and staff; and provides related facilities for the same. During the reporting year, various funding agencies have sanctioned eight research projects for a total worth Rs. 2 crore this year. And, the projects worth Rs. 1 crore are completed. With NCU, 136 doctoral students are currently registered to carry out their doctoral dissertation research work: SOET – 113, SOL - 06, SOM - 17. Seven students have submitted Ph.D. theses, and two have offered their Ph.D. synopsis during the year. Furthermore, our faculty members have been actively participating in national and international conferences and seminars and published 92 journal papers in refereed journals (from January to October 2020). The year 2020 has remained been a productive year for books, book chapters, and journal publications by the faculty at NCU. We keep up skilling our faculty through several In-house FDPs and external expert talks and promote ICT and MOOC in the teaching-learning process.

#### Academic Initiatives

The NorthCap University, inconsequent to the announcement of lockdown and closure of campus-based teaching in the third week of March 2020, seamlessly introduced online classes through Microsoft Teams' professional platform. Further, online delivery was refined with training and comprehensive guidelines to students and faculty members for conducting classes, continuous evaluation, including submission of online assignments, quizzes, surveys, case studies, industry internships, moot courts, project work, etc. The software and hardware labs were also conducted online with additional support from Virtual Labs platforms of IITs.

NCU is among the first few Universities in the country to successfully complete the final year online exams from all programs and declare results as per schedule. For this, the University adopted a professional examination platform from Mercer Mettle, offering AI proctored invigilation services and several other built-in security features for protecting examination integrity. Moreover, due to the campus activities' continued closure, the online teaching methodology has continued in the current semester. The face-to-face classes and hands-on exposure to hardware labs are proposed consequent to the University's phased reopening from 17th Nov 2020 as per Government guidelines.

This year, we introduced new programs and specializations to improve student readiness for future jobs, employment value, and career progression. In the Dept of Applied Sciences in SOET, an additional course B.Sc. (H) in Chemistry, is added with the previously offered courses of B.Sc. (H) in Maths and B.Sc. (H) in Physics. In SOM and SOET, new specializations of Data Sciences to B.SC (H) Maths; Business Analytics and Digital Marketing to BBA and Business Analytics to MBA Programs are introduced. University has expanded the liberal courses suites with a minimum of 3-5 of the open-electives available depending upon the program. Meanwhile, NCU continued enabling 'hands-on' experience to its students through Compulsory Community Service in all programs with additional credits. Several community schemes floated by the Government of India and Government of Haryana like Pradhan Mantri Ujjwala Yojana, Ujwal Bharat, National Solar Mission, India's Energy Storage Mission, Swachh Bharat Abhiyan, Jal Shakti Abhiyan, etc. are already being treated as co-curricular activities for the holistic development of students at NCU.

Furthermore, staying aligned to National Education Policy 2020, we support education, which is more inclusive, participative, and holistic. NCU has created various forums at the university level to facilitate and progress the implementation of the policy.

#### Outreach

Facilities at the University like Tinkering lab, NaviC Lab, Cisco Lab, and the Centre for Excellence and Incubation enable students' technological advancement and familiarize them with the start-up culture today. Tinkering Lab is a central facility to encourage all students to work on projects of their interest and create artefacts that would satisfy them and gain confidence. The concept of 'Thought Lab' is another initiative by NCU to foster a positive lifestyle among students and staff by reducing negative energy, stress and improving overall development. The Incubation Centre facility helps students propose, create, and incubate their ideas irrespective of their studying programs. We have established- Institution Innovation Council (IIC) (per the norms of MHRD), Vice-Chancellor Innovation Fund (VCIF), Centre for Excellence and Incubation, and Technovation at NCU to foster the culture of creativity, innovation, and out-of-box thinking. The University also has a Parent Information System that keeps the parents informed about their wards' progress in time. Further, The Moot Court Competition arrangement by NCU's Law school skills the prospective lawyers in 'dealing' with the differing legal systems and cultures that make up our global community, including the national legal system.

#### Annual Fest, students achievements

Likewise, each year, NCU organized our Annual Festival- "The Momentum" this year, too, in November 2020. We figured out new ways to dive into cultural heat by keeping a comprehensive list of 13-Onstage and 41-Offstage events to scale up on virtual platforms. Surprisingly enough, the participants' enthusiasm and energy have proved that even the home-lock situation could not lock their strength, compassion, and spirit. Meanwhile, with their respective faculty mentors' unparalleled support & endorsement, some of our students' achievements have earned us a name by securing positions in international & national level events. A few of them are -



- Won the first position Internationally in IEEE R10 Student Branch Website Competition 2020, organised by IEEE R10 Student Activities Committee, and getting a cash prize of \$300.
- Won Smart India Hackathon 2020 for the Problem Statement of Ministry of MSME, India and receiving Rs.100, 000/- as prize money and chances to collaborate with the ministry to carry forward their project.
- Won TechE Theme Championship for the IoT Domain at the Deloitte Technoutsav 3.0. and getting Rs. 75,000/- as prize money along with the pre-placement offer from Deloitte USI.

Furthermore, various community clubs operating under Student Activity and Leadership Committee, NCU has successfully conducted more than 170 events in online and offline mode.

#### National and International Tie-ups

Sir, The NorthCap University continue to nurture our ambition to be globally known for learning innovations, academic excellence, and socially relevant research outcomes. Therefore, we have marched ahead to for expansion mission and widening learning canvass in various dimensions. We are a member of -the Association of Indian Universities, Association of Commonwealth Universities, American Society for Quality (India), International Student Exchange Program, etc., Also, we have global tie-ups with renowned universities like ITB University of Chester (UK), University of Regina, Michigan Technological University, University of Dayton, Shibaura Institute of Technology, Japan, etc. Our International Relations Office (IRO) facilitates all of our international activities and serves the students, scholars, and faculty hailing from abroad or NCU.

The NorthCap University closely collaborates with reputed industries such as Daikin, MACE, Space Application Centre ISRO, Mitsubishi Electric India, Delta Power Solutions India Pvt. Ltd., Beijing Wave Spectrum Science & Technology Co. Ltd. China, CADD Centre, Coding Ninjas, etc. for various professional endeavors. Our School of Professional Attachment (SPA) aligns with it to empower students with sound entrepreneurship and employability skills for their career advancement. The University has recently signed MOUs and now collaborated with organizations like the ISRO, National Technical Research Organization, NHAI, DST, Universiti Teknologi Malaysia, and others; for collaborative working arrangement on specific research, development projects, student internships, collaborative research, training, and higher education.

The University also offers blended learning with a Learning Management System (LMS), National Programme on Technology Enhanced Learning (NPTEL), online courses of the University of Maryland/Illinois, UGC MOOCs E-Pathshala, Swayam Prabha, value-added courses, and others. NCU has academic associations with leading IITs for three programs, i.e. 'Spoken Tutorials', 'Quality Enhancement in Engineering Education Program' (QEEE program), and remote access to IIT lab facilities through their 'Virtual Lab' platform.

#### Placements

The NorthCap University ensures regular interface and dialogue with the industry for professional enrichment and students' better job opportunities. Currently, 180+ companies are recruiting from the University. Our relentless efforts resulted in over 90% placements of eligible students from all three Schools – School of Engineering & Technology, School of Management, and School of Law, Class of 2020 in the premier companies like Deloitte, United Health Group-Optum, Ernst & Young, IBM, Fidelity, Sapien, Newgen, Real-Time Data Services, Protiviti, NCR Corp, Blue Star, Nagarro, TCS, HSBC, JLL, Daikin, McDermott, Siemens, and Ameriprise Financials, etc. Besides placements, a number of our students have gone in for higher studies in India, including IITs, and abroad to University of Reading, UK; University of Limerick, Ireland; University of Florida, New York University, University of California, Arizona State University USA; University of Windsor, Canada; the University of Melbourne, Australia amongst others.

#### Summing up

Sir, The NorthCap University's legacy goes on and has come a long way in continuously evolving and challenging conventions in tune with the current world's requirements. As a Vice-Chancellor, I have full trust in our capabilities and wish to keep leading and outperform the best. Amid this, it is with immense pleasure that I congratulate our graduating classes of 2020, who are now on the threshold of beginning an exciting new phase of their relationship with the University as alumni. However, at the same time, I want to remind you that 'old' rules would no longer apply. It is time when you have to be educated, creative, and strategic at the same time. Think out of the box to evolve yourself, do the things that matter, be the solution and create a product or service that society needs. Perhaps you can't be a generalist anymore because the industry demands leaders who see a drive, give insight, and have real clarity regarding what they can bring to the table. Optimize yourself, take initiatives, and network with purpose. Ensure that your physical and mental health is still a priority. Being alumni, you will be the reflection of NCU's past, a representation of its present, and a link to its future. You are the institution's brand-ambassadors and can still make a significant contribution to the University in Mentorship and Scholarships, Career Guidance, Networking platforms, fundraising, and Placements.

#### Thanks

I once again congratulate you and your respective families on making a difference and showing the resilience that will pay you tremendous dividends down the road. Also, I express my gratitude towards each & everyone present here for sparing quality time to be with us!

Stay happy, Stay Wiser, Stay Safe

Jai Hind!



## Academic Advisory Board

The Academic Advisory Board is the supreme advisory body comprising of members, who represent a cross section of eminent experts in the fields of industry, academics and business. A diversity perspective is an important aspect of the Academic Advisory Board functioning. These members form the intellectual think tank, and meet in the beginning of each year for an interaction focused on development and provide directions for the futuristic growth of the University.

The Ninth meeting of the Academic Advisory Board was held on 29 February 2020 to review and advise on future plans for the growth and development of the University. The discussions centred around the need of work addressing problems in society, commercialization of patents filed, method to have balanced teaching resources, creating students' friendly environment (in the University), and to increase students employability.

The day long interaction, includes, members of the Board interacting with faculty members and Dean's list students, sharing their thoughts and inspiring them to be innovators, ground breakers and nation builders. During the meeting held in February 2020, the following points were highlighted:-

1. Innovation, Incubation and entrepreneurship
2. Internationalisation of education and increasing diversity at the University
3. Multi-disciplinary Sponsored projects
4. Improving quality of admissions to various programs
5. Hiring & retention of good faculty
6. Introduction of MOOC courses





# Academic Advisory Board

Eighth Meeting held on 29 February, 2020



(Left to Right):

1. **Mr. B. K. Gupta**, Director SPA, The NorthCap University
2. **Dr. Zorawar Daulet Singh**, Founder & Member, Governing Body – The NorthCap University.
3. **Dr. Devi Singh**, Former Vice Chancellor, FLAME University, Pune Former Director-IIM, Lucknow
4. **Prof. H B Raghavendra**, Professor & Vice-Chancellor, The NorthCap University
5. **Prof. SG Deshmukh**, Professor - IIT, Delhi
6. **Dr. P S Rana**, Chairman & MD, Pathera Developers
7. **Prof. AS Brar**, Former Vice Chancellor, Guru Nanak Dev University, Amritsar, Punjab
8. **Dr. Krishan Lal**, Ex - Director, Co-Chair, IAP for Science, The Global Network of Science Academies
9. **Prof. Prem Vrat**, Pro-Chancellor, The NorthCap University
10. **Prof. Kehar Singh**, SS Bhatnagar Awardee, Distinguished Research Professor, NCU
11. **Prof. K L Chopra**, Padam Shri, Former Director-IIT Kharagpur
12. **Dr. Girdhar J Gyani**, Director General, Association of Healthcare Providers (India)
13. **Prof. Karmeshu**, Former Professor & Dean, School of Computer and System Sciences, JNU
14. **Prof. S K Kak**, Founder Vice Chancellor, MTU Noida
15. **Mr Indu Bhaskar**, Scientist G & HOD, Department of Scientific & Industrial Research, Team Leader
16. **Mr. Avdhesh Mishra**, Founder & Member, Governing Body – The NorthCap University.
17. **Prof. Swaran Ahuja**, Dean Academics, The NorthCap University
18. **Col Bikram Mohanty**, (Retd)-Registrar, The NorthCap University.



## Faculty Mentors



**Prof. Prem Vrat**  
BTech. (Hons.), MTech  
IIT Kharagpur  
PhD-IIT Delhi  
Doctor of Engineering  
(Honoris Causa)  
FNAE, FNASc.,  
FWAPS, FISTE, FIIE  
Chief Mentor



**Prof. Rajesh Chadha**  
Program Director –  
Natural Resources,  
Brookings Institution  
India Centre, New Delhi



**Prof. Pushpesh Pant**  
Padma Shri  
PhD (JNU)  
Distinguished Professor Emeritus,  
School of Law



**Prof. Kehar Singh**  
Ex-Dean & Emeritus Fellow,  
IIT Delhi  
SS Bhatnagar Awardee



**Prof. Kasturi Lal Chopra**  
Padma Shri  
BSc (Hons), MSc, PhD  
FNA, FASc, FNASc, FNAE, DSc(hc)  
Former Director, IIT Kharagpur  
SS Bhatnagar Awardee



**Prof. Indira K Varma**  
MSc, DPhil, PhD, DSc,  
Glasgow University  
Honorary Doctorate Degree



**Prof. Amitava Sen Gupta**  
PhD, MSc, BSc,  
University of Delhi  
Honorary Distinguished  
Research Professor and Mentor,  
RDIL



**Dr C R Prasad**  
BE, MBA, DSc (Honoris Causa),  
FNAE, FIE, FIME, MAIMA  
Chairman & Managing Director  
Everest Power Private Limited.  
Former Chairman & Managing  
Director of Gas  
Authority of India Ltd.



**Prof. Surendra Kumar Kaushik**  
FNAE; PhD (Engg.)  
FIE (India)  
AICTE-INAE Distinguished Professor.  
Formerly Professor and Head,  
Dept. of Civil Engineering,  
IIT Roorkee



**Prof. B K Das**  
BTech (IIT Kharagpur),  
MS (Illinois), PhD (Illinois)  
FNASc, FMAS  
Formerly Dean-RDIL,  
The NorthCap University,  
Gurugram

## Officers of the University



**Prof. Swaran Ahuja**  
Dean (Academics)



**Ms Kirti Singhal**  
Chief Finance &  
Accounts Officer



**Dr. Rekha Vig**  
Dy. Dean (Academics)  
UG



**Ram Karan Singh**  
HoD  
Civil & Environmental Eng.  
Dean, (RDIL) &  
PhD Studies



**Ms Kiran Mrig**  
Controller of  
Examinations



**Dr. Shrutimita Mehta**  
Dy. Dean -  
Students' Welfare



**Ms Deepika Deswal**  
Dy Manager (HR)



**Mr Sudesh Kumar**  
Sports Officer



**Mr R.S. Sharma**  
Estate Manager



## Institutional Meetings

The NorthCap University has a rich depository of academic and thought leadership. The University conducts regular institutional meetings. The Management leadership adopts a hands on approach to managing all affairs of the university and is involved in participative decision making processes, while ensuring a close and rigorous follow up and its implementations. The University's perspective plan is discussed during Annual Academic Advisory Board Meetings held in Jan-Feb each year. The outcomes are identified for implementation during the course of the year on an ongoing basis. Some of the areas which are revisited keeping our vision & mission in mind are Teaching & Learning, Research & Development, Community engagement & Industry interaction. The Governing Body, Board of Management, Academic Advisory Board, Academic Council, Committee of Research Development and Industry Liaison, Internal Quality Assurance Cell (IQAC), and the operational committees at the School & Department Levels work in synchronization, revamping the process & practice to make them up to date.

During the reporting year, the University has taken a number of steps to develop the culture of entrepreneurship amongst the students. The university participated in the Atal ranking of Institutions on Innovation & achievements for the year 2020 and was ranked in the Band 'A', in the category 6th to 25th. The University established an Institution Innovation council (IIC) for the calendar year 2019-20 as per the norms of MHRDs Innovation cell, Govt. of India. New specialization options were introduced in the Computer Science Engineering Dept, which included Full Stack Development., Cyber Security, Internet of Things (IoT) & Cloud Computing, Data Science, Artificial Intelligence, Game Technology, Augmented Reality (AR), and Virtual Reality. In the sphere of Liberal Arts the University has decided to introduce the Courses in a phased manner which will help develop well rounded individuals who possesses critical 21<sup>st</sup> century capacities in fields across Engineering, Management, Law, Arts, humanities and Social Sciences. Liberal education shall be, in the long term implemented for all UG Programmes including professional, vocational & technical disciplines. We have also reinforced Industry – Academia Cooperation at the National and International level by signing a number of collaborations

Meetings of various statutory bodies have been regularly held during the reporting year, as shown below:

Academic Council	Board of Management	Governing Body
16 September 2020	25 August 2020	30 September 2020
23 December 2020	27 November 2020	18 December 2020



## Accreditations and Statutory Approvals

The NorthCap University was established under the Haryana Private University (Third amendment) Act No 25 of 2009, Ordinance No 2 of 2015 dated 22 July 2015, Legislative Department Haryana Government. The University is recognised by the University Grants Commission, Govt of India Under Section 2 (f) of the UGC Act 1956 and empowered to grant degrees under section 22 of the Act. The University is also recognised by the Bar Council of India.

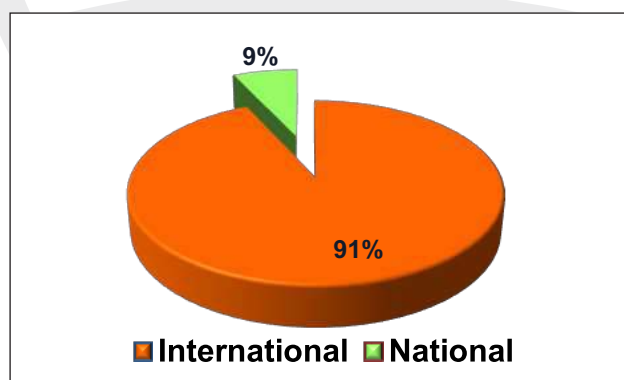
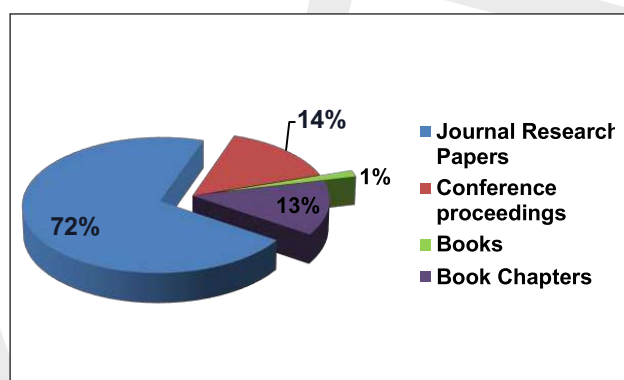
- **National Assessment and Accreditation Council (NAAC)** has accredited The NorthCap University for five years vide their Certificate No. EC(SC)/15/A&A/85.1 dated 25 May 2016 from 2016-2021.
- **Bar Council of India (BCI)** approval for our School of Law has been received for five year BBA LLB (H) programme for the academic year 2020-21, vide BCI Letter No. BCI:D:398/2020(LE/App/Afflin) dated: 08 August 2020.
- **Accreditation Services for International Colleges (ASIC) UK:** A respected international accreditation body for academic institutions worldwide re-accredited The NorthCap University with a status of 'Premier University' with 'Commendable' grades for 2016-2020.
- **Association of Indian Universities (AIU):** The University is a member of the Association of Indian Universities (AIU). This has enabled us to refer to AIU for educational guidance to help improve standards of instruction, examination and research.

## Total Publications (2020)

January 2019-December 2020

Publications	Number
Journal Research Papers	106
Conference Proceedings	21
Books	2
Book Chapters	19
<b>Total Publications</b>	<b>148</b>

Publications	Number
International	135
National	13
<b>Total</b>	<b>148</b>



(Details at the end of the Report)

## Dean's List of Students

To promote excellence in academics and to recognize outperformers, students scoring a CGPA of 9.5 and above or securing top position (First position) in the batch of that programme (across all sections) with a minimum CGPA of 9.00 are included in a selected Dean's List. This achievement is reflected in their degrees. They form a think tank for the University's academic reforms, and enjoy special privileges and pride of place in the University. They are specially invited to conduct distinguished visitors to the University. This policy has worked significantly to encourage students to strive towards making the grade in order to be on the Dean's list.





## Recent Initiatives at the University

### Board of Management's Initiatives

- The pandemic affected our daily lives, and therefore our first priority was health and safety of students. The Governing Body Members took a decision to start off with our online teaching classes, much before the national lockdown was announced on 23 March 2020. To over see the smooth running of online classes. The IT infrastructure who upgraded some of the details are as under:-
- a) Wacom Pen tablet for faculty members - 7.2 Lakhs
- b) Internet band width - 14 Lakhs
- c) Language Lab upgradation - 2 Lakhs
- d) Advance Fire wall support - 19.3 Lakhs

Based on regular feedback received from all our stakeholders the following issues have been addressed by the Management during the reporting year

- a) Installation of 65" LEDTV in each floor, for Notices - 9.62 Lakhs
  - b) Change in laying of cables in the Electrical Panel to include LT panel, floor panel and AC Panel - 1.4 Crore
  - c) Sanitisation tunnel and other requirements in view of COVID 19 - 6.5 Lakhs
  - d) Tiles and stone work in workshop area - 81.52 Lakhs
  - e) solar panel cable, wire to include fire alarm system - 7 Lakhs
- **Establishment of Centre for Emerging Technologies :** A Centre for Emerging Technologies has been setup at NCU to promote research and development in emerging areas like Artificial Intelligence, Cybersecurity, Internet of things, Augmented and Virtual Reality etc. The center is equipped with high speed computing facilities (GPUs) to carry out research in these areas. The computing facilities are being used by research scholars, UG and PG students working in the areas of Deep Learning and Virtual / Augmented Reality etc. The center is also providing short term training modules in these emerging technology areas to students and faculty from NCU as well as from outside.

### Faculty

Number of new members of faculty who joined during the year	- 17
Number of members of faculty promoted during the year	- 10
Number of members of faculty awarded PhD degree during the year	- 05

## Academic Initiatives

*During the year, NCU adopted innovative strategies to meet the challenges of the prevailing situation. Online teaching was adopted seamlessly without causing any break in the teaching-learning process. New programs and specializations were introduced to diversify portfolios in line with the market requirements and keep pace with new technology developments. Several other features for students' holistic development have also been initiated as per the recently published National Education Policy - 2020. Comprehensive student feedback was conducted to identify areas of improvement and follow up actions planned. The focus is on identifying students' aptitude and contemporary teaching pedagogy, including experiential learning, industry exposure, and project-based hands-on to bridge the gap between the classroom and industry requirements. Some of the initiatives recently introduced are as follows:*

### Introducing New Programs and specialisations

A new program has been introduced in the Dept of Applied Sciences in SOET. The Dept is already offering B.Sc (H) in Maths and B.Sc(H) in Physics. Therefore, to complete the portfolio, a new program -B.Sc(H) in Chemistry is started after due approvals from Haryana Govt. The student response has been satisfactory, given the prevailing situation. New specializations have been introduced in SOET and SOM to improve student readiness for future jobs, employment value, and career progression. In SOET, a specialization track of Data Sciences has been added to B.Sc (H) Maths. Program as Data Sciences graduates has a higher degree of employability as per current market trends. In SOM, two specializations have been added to BBA programs i.e. Business Analytics and Digital Marketing. The Business Analytics specialization has been added to the MBA program as well. All these specializations are expected to enhance employability of our BBA and MBA students.

### Adoption of Alternative Teaching Pedagogy- Introduction of Online Teaching and Evaluation

Consequent to the sudden announcement of university lockdown and closure in the third week of March 2020, the university took off guard. However, NCU adapted to the challenge by seamlessly introducing online classes. A professional online teaching platform Microsoft Teams, was shortlisted for this mode of delivery, and faculty and students were trained to use that with the existing timetable. The software and hardware labs were also conducted online with additional support from Virtual Labs platforms of IITs.

The student response was appreciative and satisfactory as per the feedback survey conducted after the launch of online classes. The process of online delivery has since been refined with comprehensive guidelines for classes' conduct, continuous evaluation, including submission of online assignments, quizzes, surveys, case studies, industry internships, moot courts, and project work, etc. An extensive six-day FDP has also been conducted with experts from outside, including international experts. It gave the necessary exposure to various online tools available and problems faced in online teaching.

Another big challenge was to conduct timely major exams of final year students of all programs to avoid any adverse effects on their career progressions due to delays. For this, a professional examination platform from Mercer Mettle offering AI proctored invigilation services and several other built in security features for protecting examination integrity. NCU was among the first few Universities in the country to complete the final year online exams as per UGC guidelines and declare results as per schedule.

Results of all the programs for intermediate years have also been declared in time as per UGC and Haryana Govt guidelines.

Due to the university's continued closure, the online teaching methodology has also continued in the current semester. The face-to-face classes and hands-on exposure to hardware labs are proposed to be provided to students consequent to the university's phased reopening from 17th Nov. 2020 as per Govt guidelines.



## **Expansion of Liberal Courses Suite across All Programs**

Given the need for students' holistic development and offering more flexibility in curriculum, the list of open electives has been expanded, offering a wide range of topics from arts to sciences as open electives across all programs. The number of open electives in all programs has been increased, with a minimum of 3-5 open electives being available depending upon the program. Most of the open electives do not require any prerequisites and can be taken up in a MOOC or blended learning model. This is expected to enhance students' intellectual horizons and inculcate the self-directed learning skills required for pursuing successful careers, particularly in today's quick technological obsolescence.

## **Improving Practical Content in Curriculums**

A student feedback survey was conducted in Feb- March 2020 by a retained third party to assess satisfaction levels and identify areas that need improvement. More than 80% of students participated in this survey. A project committee has been constituted under Vice Chancellor's chairmanship to review the report and initiate corrective actions.

One of the feedbacks of students is that practical content needs to be improved in various program curriculums. The following strategy has been proposed as a corrective action:

- i) The curriculum of various programs have been reviewed. It has been confirmed that adequate practical content is available for lab work, projects, and other hand on activities in all the programs.
- ii) Departments have been advised to remove obsolete content, if any, and update with new experiments/ other content.
- iii) It is concluded that better students' participation and appreciation of the outcome of practical activities is required. Accordingly, expected learning outcomes have been specified for such activities.
- iv) To ensure active student participation and effectiveness of these practical components such as field visits, guest lectures, case studies, moot courts, and workshops, etc. evaluation through short reports, tests/ quizzes, viva, etc. post activity to test learning outcomes has been made mandatory.
- v) Further steps including review/up-grading labs, duration of labs, increased industry association for Project work, and review Internship policy to provide better options to students are planned.

All these steps have been embedded in course templates across all university programs, so that faculty can do the necessary planning at the start of the course and inform students also about these requirements.

Several other points from feedback, including enhancing employability in numbers and quality, faculty skill improvement, improved ERP functioning, increase in Alumni interaction, increase and integration of out-of-class activities with curriculum, etc., are also being pursued by the Project committee.

## **Introduction of Compulsory Community Service in the Curriculum**

No one can undermine the significance of community service with 'hands-on' experience to understand societal problems and propose relevant solutions. It is a necessary step towards the holistic development of students. NCU recognizes the need for giving back to the community and encourages and propels students to participate actively in several outreach activities. In continuation with this spirit, it has been proposed to include compulsory Community Service in all programs at NCU. The addition is in line with the goals of the UGC guidelines of Jan. 2020 and National Education Policy (NEP) 2020. As per this proposal

1. All students shall enroll in clubs/ societies of the university engaged in such activities and take social service/ community service activities through these clubs and societies.
2. Students shall undertake one week's community service in summer vacation and additional 70 hours of community service over odd and even semesters (35 hours each semester), making 140 hrs per year. This has been made part of the Scheme of Studies of all programs at NCU and given the additional credits.
3. A committee is constituted to streamline the process and place the right coordination and promotion, with active representatives from all depts that shall oversee the scheme's complete implementation and conduct awareness sessions for both faculty and students.

### **Faculty Development and Upskilling**

Faculty development and upskilling have become critical in view of the introduction of many specializations in all branches of engineering. Faculty need to be trained in new technology areas like artificial intelligence, cloud computing, cybersecurity, the internet of things, augmented / virtual reality, smart cities, digital marketing, etc., to meet the teaching resources requirements. Several FDPs were conducted by In house senior faculty and external experts in these areas to prepare faculty to teach these courses. Further, the faculty is also being oriented for more and more use of ICT and MOOC in teaching-learning and other digital platforms.

In these times of limited mobility, faculty are encouraged to enroll in certification courses on various online national/international portals. Faculty are also encouraged to conduct online seminars, workshops, and guest lectures for other institutions as requested. Faculty are taking an active part in all these activities.

### **National Education Policy (NEP-2020) and its Implementation at NCU**

The policy, released by Govt of India in June 2020, is a composite document giving primary, secondary, and higher education directions. Some of the highlights of the policy relating to the new policy are as under:

- i) The policy's main aim is to take the quality of education to the next higher level.
- ii) Pride of being an Indian and developing student to be a truly Global Citizen.
- iii) Develop character, ethical and constitutional values among the students.
- iv) Moving towards a higher educational system consisting of large, multi-disciplinary Universities/ colleges.
- v) Have a single regulator for higher education.
- vi) Increase access, equity, and provide scholarships to underprivileged sections of society, and plan to offer education through open learning.
- vii) Increase the gross enrolment ratio from 27 to 50%.
- viii) Introduction of 4-year graduation programs and many more fundamental changes, including multiple exit options and many more points.

The NEP has been discussed at various forums in the university. The policy is being studied in more detail to understand its impact. Some steps like up-gradation of curriculums have been started, but a detailed implementation strategy is planned to be worked out once more information/ clarity from Govt is available.



## Teaching Learning Initiatives

NCU has introduced several innovations in its teaching learning process to make it more practical oriented with focus on deployability. Some of these are:

- Industry association through Context Learning wherein classroom learning is related to real world and consists of some relevant part of the syllabus in a course delivered by industry experts, video demonstrations, industry visits to see the demonstration of concepts, mini projects, guest lectures etc.
- LMS system for 100% courses & other ICT tools to afford self-paced learning for students
- Programme flow charts have been developed for each curriculum to clearly indicate the flow of courses to students and help them in choosing various electives.
- Thousands of e-books and e-journals with Wi-Fi campus for easy access to information resources such as video lectures through Swayam, NPTEL, Swayam Prabha, E-Pathshala, Coursera etc.
- Plagiarism check on all project reports and research publications as per new UGC guidelines
- High emphasis on industry connect through multiple internships for students via strong industry academia interface
- Industry live projects for students to keep them abreast with newer technologies
- Special focus on improvement of weak students through counselling and remedial classes and so on



## New Labs

### Cisco Lab

Cisco Networking Academy has been established in NCU with the main objective to meet the growing demand for ICT Professionals and to improve the career prospects of the students.

The Cisco networking programme aims to inculcate networking and IT skills in students who want to expand their IT knowledge and become industry ready. It includes innovative IT curricula that comprises of four modules. CCNA certifications cover all important networking aspects which is the first step in a Cisco career certification path. These modules are:

CCNA1 — Networking Basics

CCNA2 — Routers and Routing Basics

CCNA3 — Switching Basics and Intermediate Routing

CCNA4 — WAN Technologies

A dedicated CISCO lab has been set up and more than 100 students have already benefited from this programme.

### NavIC Lab

The NavIC Lab at the University records data from IRNSS satellites 24\*7 and after analyzing the data sends it to SA-ISRO, Ahmedabad, on a weekly basis. Three research scholars have been working in the lab under the guidance of Prof Amitava Sen Gupta and Dr Sharda Vashisth. Following are their broad areas of research:

- Time Synchronization technology using IRNSS
- IRNSS disciplined Oscillator
- Common view time transfer
- Difference in positioning accuracy with and without 7th satellite IRNSS-1I
- Positioning accuracy using IRNSS
- Study of ionosphere using IRNSS

### Incubation Centre

The purpose of establishing Incubation Centre is to help students incubate innovative ideas by facilitating skills like Creative Thinking, Problem Solving and Data Generation. The objective is to help students float projects and incubate ideas through industry participation and University augmentation. Currently, projects and industry problems related to a start-up company, City Innovates Pvt. Ltd., Gurugram have been taken up and the company is our main funding partner. University has also identified several student projects to incubate further through a University internal Technovation.





## Memorandum of Understanding

**Maruti Center for Excellence (MACE)** collaborates in the field of Training and Development of NCU students through practical and theoretical trainings and through projects during the internships. It extends to technical seminars and guest lectures also and provides UG students of the Dept of Mechanical Engineering a platform to enhance their technical skills followed by employability.



**Delta Power Solutions India. Pvt Ltd.** MoU was signed between NCU and Delta Power Solutions India. Pvt Ltd to develop and execute education and research projects, promote development of syllabi and activities that support research and development through work- integrated learning programmes and Cooperatives Education.



**National Technical Research Organisation (NTRO)** Memorandum of Understanding signed between National Technical Research Organisation (NTRO) Govt. of India and The NorthCap University. NCU is responsible to actively collaborate in R&D projects to be taken up through mutual consultation and ensure their execution on time.



**Daikin Air Conditioning India Pvt. Ltd. (DAIPL)** and NCU signed Mou under which it has setup Centre of Excellence (CoE) on HVAC systems at the university. Experts From DAIPL impart practical skill training to faculty and students on advanced technologies in Heating Ventilation and Air Conditioning (HVAC) System (using air-conditioning units supplied by DAIPL) and industrial exposure to the students within the campus. The CoE is one of its kind to be setup by the Japanese Company.



**SAC, ISRO,** Renewal of MoU with SAC, Ahmedabad The University and Space Applications Centre (SAC), Ahmedabad has agreed to extend the MoU further for 3 years from the date of signing of this MoU.



**National Highways Authority of India** has signed a Memorandum of Understanding (MoU) with The NorthCap University to facilitate the faculty, researchers, and students of the University to familiarize themselves with the latest trend in the highway/transportation sector with the common objective of sharing the knowledge in their respective domain. It will further bridge the gap between Industry and Academia.



### Tinkering Lab

The dedicated technical staff and faculty members provide hands on support on different emerging areas such as IoT, Big data, cloud computing, robotics etc. to students working in this lab on different projects. Approximately, 450 projects were made in the Tinkering lab in the last semester and almost 400 students of the CSE, ECE, Mechanical and the Civil Departments made electronics based and mechanical projects using electronic circuits, Arduino boards, other micro-controllers, different types of sensors, motors, ICs and control circuit modules. Some of the projects on which students have worked in the Tinkering lab are Earthquake resistance building, Drone delivery system, Smart classroom with automatic room lock and light on-off system, Gesture controlled car, Automatic smart car parking system, Automatic hand wash tap and many more.



### Thought Lab

The thought Lab was established to help students overcome anxiety, stress, fear and help them develop positive attitude towards life. Regular practice of meditation reduces the level of lactic acid in the body, which helps us in releasing tension. Thought lab helps us to check the quality of thoughts of our students and the society at large. We conduct regular activities, volunteer classes and open electives under Thought Lab.





## Other Initiatives

### Parent Information System

The University has started a Parent Information System which keeps the parents informed about the progress of their wards. A portal has been set up which provides information on the academic progress and other achievements/activities of students including extra and co-curricular activities and so on. Corrective actions if required can be taken in consultation with the faculty. Parents have been informed of this facility through SMS, website etc.

### Student E – Portfolio Generation

E-portfolio is a unique initiative of the University to identify students' interests in the first year itself and encourage them to develop these areas. Students shall continue to develop this portfolio during their stay at NCU and also record their achievements and rewards using multimedia so as to showcase their portfolio to potential employers for enhanced employability. It will work as a complete repository for a student's resumé along with all her/his academic documents which can be kept by the student for future reference purpose also. This activity is being coordinated and overseen by Student Mentors in association with SPA. 1st Year students were initiated into preparation of their E-portfolio during the induction programme.

### Office of International Relationship

To increase diversity on the campus and to attract the best talent, the University has come up with several Partnership Agreements with foreign universities. To facilitate students who want to study abroad and for student and faculty exchange, an Office of International Relationship has been established at the University this year. The major activities of this Office of International Relationship include, facilitating students in getting admission abroad, collaborating in exchange of faculty members, organizing seminars and conferences.

### CSE Students win Deloitte TechnoUtsav3.0

Team Technocrats from Computer Sciences and Engineering Department, comprising of students Nishant Khatri (Team Leader), Prabal Goyal and Prakhar Bhatnagar (All final year CSE students) has been declared Tech E Theme champion for the IOT domain at the Deloitte TechnoUtsav 3.0. In addition to earning a prize money of ₹ 75,000/- all the three students have received pre-placement offers from Deloitte USA. The team worked in the IOT domain for the Life Sciences and Healthcare Industry.

### Visit by ISRO scientists to NCU

Four Scientists (Dr. V. K. Chowdhary, Dr. Shahana, Dr. Kirti & Dr. Akash) from the Indian Space Research Organisation (ISRO) visited The NorthCap University on 23 December 2019 regarding collaboration for Vikram Sarabhai Centenary Programme. They met the Honorable Vice-Chancellor for discussions related to a forthcoming programme to be organized at the NCU campus. The proposal regarding the events has been discussed with the NCU team including the HOD and faculty members of the CSE department. The team from ISRO was then taken around the campus and shown the various facilities available for the students.

### Workshop on Python for “Data Science” for NTRO officials 16-20 December 2019

The NorthCap University conducted “Five Days Training on Python for Data Science” for NTRO officials from 16 to 20 December 2019. Major General Sandeep Sharma, Head of Centre for Cyber Research at NTRO and senior officials, Mrs. Parmeshwari Mukherjee and Mr Vinod Joshi from NTRO were a part of the Inaugural and Valedictory ceremony. Dr. Kavita Khanna, Dr. Rita Chhikara, Ms. Shaskhi Sharma and Ms Shrishti were the resource persons for “Python for Data Science”. Dr. Jyotika Pruthi also conducted a few sessions on Design Thinking. The officials appreciated the training to a great extent and were keen to take the association with The NorthCap University forward.

### NCU student gets admission in Stanford University, USA

Pranav Jain, a 2019 pass out batch student who has exceptionally good technical skill has got admission to Master Degree in Computer Science in Stanford University, USA. While at the University, he has won a stipend worth US\$96,000 for his project at the International Internship programme organised by Google. He was working as a Senior System Software Engineer at NVIDIA since July 2017.

### • Office of International Relationship

To increase diversity on the campus and to attract the best talent, the University has come up with several Partnership Agreements with foreign universities. To facilitate students who want to study abroad and for student and faculty exchange, an Office of International Relationship has been established at the University this year. The major activities of this Office of International Relationship include, facilitating students in getting admission abroad, collaborating in exchange of faculty members, organizing seminars and conferences.



### Faculty Development

The Six days Faculty development was designed to craft the ways and means of delivering the Online Classes and improve the teaching learning Pedagogy at NCU with recommendations from Dr. Agueda, Cintana Education. The objectives were to create awareness on:

- Best Practices in Online Teaching
- Increasing Student Engagement
- Digital Tools & Techniques
- Stress Management
- Design Thinking in Online Teaching
- Instructional Design Workshop
- Prototype Model Designs
- Processes & Guidelines



The sessions of the FDP were planned to meet the desired objectives. Towards the end, Cash prizes of Rs 3000, Rs 2000, Rs 1000 were awarded to the first, second and third top positions. The Vice-Chancellor felicitated the awardees and shared his appreciation for the FDP co-ordinators and the faculty members who actively participated and made this FDP a success.

### Strategic Plans for Schools & Departments

To ensure full commitment and participation of all faculty members in realizing the vision, growth and development of the University, all the Departments have laid down their goals and targets for the year. These targets are based on the individual targets (one year deliverables) given by each faculty. Therefore, accountability for the work to be carried out by each staff member from the beginning of the academic year is fixed. Periodic review about the progress is monitored. Faculty appraisal form has been redesigned and made inclusive so that strength of each faculty can be captured and recognized not only in teaching and research but also in outreach and skill development.



## Faculty Recognitions and Awards

It is with immense pride that we announce that the Hon'ble President of India, in his capacity as the Visitor of the Indian Institute of Technology (ISM) Dhanbad (Jharkhand) has nominated Prof. Prem Vrat, as the Chairperson of the Board of Governors (BoG) of Indian Institute of Technology (Indian School of Mines) Dhanbad for a period of three years with effect from 25.08.2020.

In addition, he has also been nominated to officiate as Chairperson of the BOG for IIT Mandi.



Prof. M.S. Sodha, Prof. I.K. Verma and Prof. P. Swamee of The NorthCap University, nominated among the top 2% Indian scientists in the world by Stanford University USA.

Three of our Senior Professors namely Prof. M S. Sodha, Prof. I. K. Verma and Prof. P. Swamee, figure in the last of top 2% scientists of the world. This nomination is based on data created by experts of Stanford University, USA, on the basis of standardized citation indicators. Prof. Sodha was also awarded "Distinguished Scientist Award" during the 9th International Scientists awards on Engineering, Science and Medicine held on 12 & 13 September 2020. Prof. Sodha has been associated with the University since the very beginning and is a Padma Shri & S S Bhatnagar awardee and was an active member of University Board of Management & Governing Body.



*Prof. M.S. Sodha*



*Prof. I.K. Verma*



*Prof. P. Swamee*



## Senior Appointments

- **Prof Avinashi Kapoor** has joined as a Professor in Applied Sc department w.e.f. 17 Aug 2020.
- **Prof Manjula Batra** has joined as a Professor in School of Law w.e.f. 10 Aug 2020.
- **Prof Madhav Dar** has joined us as Adjunct Professor in SOM w.e.f. 2 Jan 2020

## Engineers' Day

Engineering for change for good, It develops a balanced growth in the society and to enhance the system one must not forget the contribution of the core branches of engineering said by Prof. Prem Vrat, Pro Chancellor, Professor of Eminence, during the celebration of Engineers' Day.

Commemorating life and efforts of one of the greatest Indian Engineers, & Bharat Ratna Sir M Visvesvaraya, The NorthCap University celebrated 52nd Engineer's Day with the theme 'Engineering for Change' dated 19 September 2020. Mr Sandeep Handa, Honorary Secretary, IE(I) Faridabad Local Centre, Chief Guest incited the audience to the need of large number of engineers in the coming time.

## Teachers Day Celebration 2020

Teacher's Day 2020 was celebrated via online platform (MS Teams) where all faculty members gathered and rejoiced in the spirit of Teacher's Day. A motivational session was delivered by Prof Prem Vrat, Pro Chancellor followed by technical session from Prof Amitava Sen Gupta. The concluding session was given by the Vice Chancellor followed by a video montage shared by HR to reminisce and pay tribute to previous years' celebrations. Souvenir distribution was arranged by HR to each faculty member in order to commemorate this occasion.



## Women's Day 2020

International Women's Day was celebrated by NCU faculty, staff and students with full zeal and enthusiasm. It was organized in two parts: On 6th March 2020, School of Law organized an event in collaboration with the Centre for Social Research. Dr. Ranjana Kumari, Director, Centre for Social Research graced the occasion with her benign presence.

On 7th March, HR organized a series of fun games and group activities for faculty and staff members followed by high tea.



## World Environment Day

The theme for the World Environment Day 2020 was, 'Time for Nature,' with a focus on its role in providing the essential infrastructure that supports life on Earth and human development. This focus is expected to provide an opportunity for driving the momentum and public awareness of nature as a key aspect for balanced Biological Diversity. As the day encourages worldwide awareness and action for the protection of the environment, let us pledge to put a control on at least one of our activity which causes pollution and damages the environment and nature.



World Environment Day 2020

## NCU Law Review

The NCU Law Review, (ISSN 2581-7124), a peer reviewed biannual academic publication of the Centre of Post Graduate Legal Studies (CPGLS), School of Law, NCU, is published in the month of March and September. This publication is an endeavor to foster research and serves as a forum for the promotion and circulation of views on contemporary legal issues among members of the legal profession, academicians and students. The Law Review aims at legal research centers, policy makers and government organizations. This year in the month of September 2020, NCU law Review Vol.1, Issue 2 (September, 2018) has been published in which both National and International authors contributed.



## Medical and Health Facilities

The NorthCap Medical Center advances the well-being of The NorthCap University community. We serve as the central hub for management of students' routine, acute and chronic needs. During the reporting year the Center canvassed for Health Promotion, Counseling and Psychological Service, Disability Services, Medical Services, and Education on several topics affecting general well-being.

Over the last several months the Center has maintained a sustained and focused effort on managing the unknown virus and its impact on our staff and students. When COVID-19 was declared a global pandemic in March, over the course of a single weekend, the Center at university transitioned to a virtual model of care. Medical Services remained open on site, while in amended fashion, never ceasing in-person care for staff and students who needed it, and other services provided the same high level of care through secure virtual platforms to our students who remained in our hostels, as well as to those who relocated across the country.

Members of the Center have played a leadership role in leading the University response to the challenges presented by COVID-19, serving on task forces guiding the institution's operating plans.

In addition to the above, Health Camp in partnership with Vijaya Diagnostic was organised in February. In April, a Webinar was held by psychologist Dr. Shweta from Columbia Asia Hospital.

In August, a webinar was held by Ophthalmologist Dr. Dhawan, Director Max Hospital, Saket. Webinar on Anxiety & Stress was held by Anon Global in the month of October.





## Students' Achievements and Activities

Team '**Swacchta Prabandh**', comprising of six members Ms. Eshita Mann (Team Leader), Mr. Dushyant Luthra, Mr. Lakshay Baweja, Mr. Hritik Kounsai, Mr. Devashish Nayak and Mr. Sahil Khurana with the official mentors Ms. Poonam Chaudhary and Mr Sumit Kumar from CSE, NCU, won SIH 2020 for the Problem Statement of Ministry of MSME, India. They got an amount of Rs.100,000/- as prize money and further collaboration with ministry to carry forward their project into reality. More than 10,000 participants competed for 36 hours (online) in Three-day Grand Finale, 4th Edition of SIH 2020.

Team '**Technocrats**', comprising of three members Mr. Nishant Khatri (Team Leader), Mr. Prabal Goyal and Mr. Prakhar Bhatnagar have been declared TechE Theme Champion for the IoT Domain at the Deloitte Technoutsav 3.0. They will get an amount of Rs. 75,000/- as prize money as well as a pre-placement offer from Deloitte USI. More than 20,000 participants registered for the competition, which continued for more than six months, out of which only 84 made it to the Grand Finale of the 3rd edition of Deloitte TechnoUtsav (online)

### IEEE NCU wins the Darrel Chong Student Activity Award 2020

IEEE NCU Student branch, under the guidance and leadership of Ms. Srishti Sharma, Asst. Prof. CSE and 17CSU207 Virendra Pratap Singh have been awarded the Darrel Activity Award, in the Silver category for the year 2020. Theme for the award was 'Innovation in the Internet of Things', where more than 100 students from different countries participated.

A **Special achievement award** is being given to Roll No. 16ECU064 Mr. Shrey Malhotra of ECE department, who is also a Budding Entrepreneur.

a. Stood Third in the Indian International Science Fair held at IIT Madras from 13th-16th October 2017

b. Represented India in Global Innovator Festa held at South Korea in 2017.

c. AICTE Start Up Policy Brand Ambassador, by MHRD, Govt. of India in March 2019.

The award carries a cash prize of Rs. 10,000/- and a Certificate for special achievement.

## SPIE Events

### Self-Driving Car Safety

A webinar on "Self-Driving Car Safety" was organized on 17th November 2020 at 10:30 am by IEEE RAS chapter under the guidance of the Faculty coordinator Dr. Sharda Vashisth and Student coordinator Divyam Sachdeva. Ms. Palak Talwar, Senior Safety Engineer at Lyft, is an NCU alumnus and has completed her masters in Electronic and Electrical Engineering from the University of Michigan. She showcased a perfect example of a safety engineer. She focused on all the functions and requirements of self-driving cars. Her words and the way she explained really influenced and ignited many students to consider working on self-driving cars. All the aspects of a self-driving car were covered really well by the speaker. The webinar was successful in inspiring young minds to the right direction. 51 students registered for this webinar and final view turnout was 194.

### Robotics and AI for Industrial Automation

A webinar on "Robotics and AI for Industrial Automation" was organized on 7th November 2020 at 9:00 am by IEEE RAS chapter under the guidance of the Faculty coordinator Dr. Sharda Vashisth and Student coordinator Divyam Sachdeva. Mr. Sulabh Kumra, Team lead and Robotician at Osaro, previously holding the position of Sr. Control Engineer at Tesla. He holds PhD degree in Robotics and is an alumnus of the Department of EECE - and showcased a perfect example of a robotician. He focused on all the parts of a robot in detail and also gave a practical view by showing real life videos. His words and the way he explained really influenced and ignited many of us to consider doing something in this domain. He focused on the interesting factor of robots and discussed in detail about manufacturing of robots and how Robotics and Artificial Intelligence are changing the world together. All the listeners of the webinar were inspired by the experience shared by the speaker. 112 students were registered for this webinar and final view turn out was 229.

### Webinar on Industrial Automation

A webinar on "Industrial Automation" was organized in the IEEE Webinar Series: technologies that make a difference on 14th June 2020 at 4:00 pm by IEEE RAS chapter under the guidance of the faculty coordinator Dr. Sharda Vashisth and student coordinator Divyam Sachdeva. Mr. Veer, the distinguished speaker of the webinar, is an experienced and talented personality in the field of Design Analysis and Automation of Aero Engines. He is experienced in handling FEA related projects, optimization Techniques for HCF components. He talked about Industrial Automation ranging from the working of machines to automation and how different kind of engineers plays a vital role in working of such machines. We have had an audience 250 till date. We had a vibrant audience ranging from the field of computer science to mechanical engineering and from enthusiastic school students.

## Webinar on Space, Time & Gravity

A webinar on “Space, Time & Gravity” was organized in the IEEE Webinar Series: technologies that make a difference on 3rd June 2020 at 4:00 pm by IEEE RAS chapter in association with IEEE SB IIT Indore. Ms. Parul Janagal, research scholar from the Department of Astronomy, Astrophysics and Space Engineering at IIT Indore was the distinguished speaker of the webinar. She enlightened us with the knowledge about Cosmos and things beyond our understanding. She works with compact objects and uses the data from multiple new generation telescopes for research purposes. She has been a scholarship holder SHE-INSPIRE throughout her BS-MS degree. The webinar had an audience 665 till date. The event was coordinated by the faculty coordinator Dr. Sharda Vashisth and student coordinator Divyam Sachdeva.

## From Automatic to Autonomous: Defining Industrial Vehicle Capabilities

A webinar on “From Automatic to Autonomous: Defining Industrial Vehicle Capabilities” was organized in the IEEE Webinar Series: technologies that make a Difference on 16th May 2020 at 4:00 pm by IEEE RAS chapter. Ms. Elena Messina, group leader of the Manipulation & Mobility Systems Group of the Intelligent Systems Division (ISD) at the National Institute of Standards and Technology (NIST) was the distinguished speaker of the webinar. She has over 150 publications and is editor of several books. She has received three Department of Commerce Bronze Medals for Superior Performance and Technical Leadership and the Edward Bennet Rosa Award for research and development leading to standardized test methods for emergency response robots. She talked about different types of robots used in the industries and how humans and robots can be useful to each other. This webinar had an audience 210 till date. The event was coordinated by the faculty coordinator Dr. Sharda Vashisth and student coordinator Divyam Sachdeva.

## Application of Global Navigational Satellite System

A webinar on “Applications of Global Navigation Satellite System” was organized in the IEEE Webinar Series: technologies that make a Difference on 25th April 2020 at 4:00 pm by IEEE RAS chapter under guidance of Faculty coordinator Dr. Sharda Vashisth and Student coordinator Divyam Sachdeva. Prof. Amitava Sen Gupta, Retd. Acting Director NPL was distinguished speaker of the webinar. He is an expert in the areas of Radio and Atmospheric Physics; Electronics; Atomic Physics; and Time and Frequency Standards. With over 35 years of research experience, his major contributions include design and development of India’s first and one of the world’s most accurate primary atomic clocks, known as the ‘Cesium Fountain’ and the development of the prototype of a space qualified Rubidium Clock for ISRO. He explained the basic concepts of GNSS and future scopes in research. The session was joined by Prof. A Q Ansari, Chairman at IEEE Delhi SAC. The webinar had a registration count of 90 people and the audience turned out was 70.

## Careers in DRONE related areas

An interactive video conference session was organized on 15th April 2020 at 5:00 PM by IEEE RAS chapter under guidance of Faculty coordinator Dr. Sharda Vashisth and Student coordinator Divyam Sachdeva. Mr. Shailendra Mishra, Founder and CEO, DroneYuga talked about Drone industry and careers in DRONE related areas. He gave insightful information on DRONE operation & Maintenance and Aviation/Airlines Management. Around 55 students attended the session.

## IEEE NCU ACTIVITIES

IEEE NCU Student Branch comprises of 7 chapters and 150+ members and is one of the most active IEEE Student Branches in the Delhi Section. In the year 2019-2020 IEEE the NorthCap University conducted over 80+ activities. This year, IEEE The NorthCap University, conducted the maiden edition of the Northern Indian congress, SYNERGY spanning its impact over 4 states and 4 union territories. This event was a confluence of 6 speakers from multifarious backgrounds, including Padma Shree awardee Shri. Navin Gulia. Key achievements of this year were:

- A) Formation of two new IEEE subchapters, namely IEEE Industry Applications Society and IEEE Technology and Engineering Management Society.
- B) Webinar with Miri Rodriguez, Global Head of Internships Microsoft on 19th April, 2020. It was due to the initiative of IEEE NCU, that Miri Rodriguez gained traction in India.
- C) Webinar with NIST expert on the topic of From Automatic to Autonomous: Defining Industrial Vehicle Capabilities on May 16, 2020.
- D) IEEE NCU YouTube Channel surpassed 1,170 subscribers and has generated over 23,154 viewership of its activities conducted.
- E) Dr. Srishti won the best branch counsellor award in IEEE Delhi Section Award Ceremony for the Academic year 2019-20.
- F) Virendra Pratap Singh, Yatharth Piplani and Yashdeep Lamba won IEEE Delhi Section Student Network Award, IEEE Outstanding Women in Engineering Award and IEEE Outstanding Student volunteer award respectively in IEEE Delhi Section Award Ceremony for the Academic year 2019-20.
- G) Out of 80+ Student Branches, IEEE NorthCap University won the bid to host IEEE Delhi Section Student Award Ceremony, amongst NSIT, DTUs, NITs, IITs, etc. amongst 4 states and 4 union territories of Northern India.
- H) Virendra Pratap Singh, won the best Student Volunteer Award in IEEE India, the first Student of The NorthCap University to achieve an accolade at IEEE India level for the AY 2019-20.

I) The NorthCap University won Darrel Chong Award for Intel IoT workshop conducted in March, 2019. This award is the attestation of the best activity according to Member and Geographic Activities Board, IEEE.

J) The website of IEEE NCU, [ieee.ncuindia.edu](http://ieee.ncuindia.edu), won the recognition of the best website in Asian Pacific region (R-10).

## **ISHRAE Professional Society**

NCU ISHARE Chapter has 27 student members with the steering committee constituting eight members from final and pre-final year batches. The faculty Advisor for NCU ISHRAE chapter society is Dr. Akanksha Mathur. The event was coordinated by Dr. Akanksha Mathur, ME department.

### **Professional Society fest (16 January 2020)**

The professional subcommittee organized a society fest for this session on 16 January 2020. Stalls of all professional societies were arranged in front of Café 10. This event gave a platform for the students across the university to know about the various professional societies active in our University. Students interacted with the society coordinators and members about the benefits of joining their respective societies. Societies showcased their past events and achievements. Students displayed their projects made for the different events under the society activities. About 143 students showed interest in registering and 50 students have got themselves registered during the fest. This event was coordinated by Dr. Akanksha Mathur, Mechanical Engineering department.

### **ISHRAE Installation ceremony**

The Department of Mechanical Engineering invited Mr. Deepak Dhamija, President of ISHRAE Sub-Chapter Gurugram, & Mr. Ravi Shankar, Member ISHRAE Sub-Chapter Gurugram at ISHRAE for Re-Installation of its Student Chapter at NCU on 4th February 2020. During the Installation Ceremony, Mr. Ravi Shankar identified NCU as a potential partner in Gurgaon Sub-Chapter, amongst other ongoing partnerships with premier institutes. Mr. Shankar then proceeded to call upon each successfully elected student to take the Oath for holding the Office of student President, Secretary, Treasurer and 5 Core Working Committee members. Re-Installation of the ISHRAE Chapter is expected to give a boost to the industry-institute interaction in Mechanical Engineering. The event was coordinated by the Society faculty advisor & coordinator, Dr. Akanksha Mathur.

### **An expert lecture on HVAC – ME department**

Department of ME with ISHRAE organized an expert lecture on HVAC. Mr. Ravi Shankar Kumar, HVAC - project manager at Adhunik Cooling System Pvt. Limited was invited for the talk. B.Tech. fourth and third year of Mechanical Engineering, who are members of NCU - ISHRAE student chapter attended the session in seminar hall on February 4, 2020. The students gained insights into the area of heating, ventilation and air-conditioning systems. The event was coordinated by Dr. Akanksha Mathur, ME department.

### **Webinar on “Basics of Psychrometrics” – 10 April 2020**

ME Department invited Mr. Sumit Kumar (Youth Chair & SAC - ISHRAE Gurugram Chapter) and Mr. Yogesh Bhardwaj for an expert lecture through webinar on the topic “Basics of Psychrometrics” on 10 April 2020 on MS teams. Mr. Sumit Kumar presently working as a project engineer at Avant Grade Clean room & Engg Solutions shared information regarding ISHRAE activities and was followed by speaker Mr. Yogesh Bhardwaj. He is the Founder and Director of E-Conserve Resources Pvt. Ltd. 30 students from final and pre-final year B.Tech. (ME) attended the webinar. The students learned about the basics of air conditioning required in HVAC design. The session was a learning experience for students. The event was coordinated by Dr. Akanksha Mathur, ME Dept. This webinar for ME students, NCU was published on the YouTube channel of ISHRAE Gurugram chapter. The link for the same is:

<https://www.youtube.com/watch?v=u07t8uK5VT0>

### **Webinar on “Heat load calculation” – 16 April 2020**

Mr. Yogesh Bhardwaj (Student chair -ISHRAE Gurugram chapter) was invited for an expert talk through webinar on the topic “Heat Load calculation” on 16 April 2020 on MS teams. Mr. Yogesh Bhardwaj is the Founder and Director of E-Conserve Resources Pvt. Ltd. Mechanical engineering students of third and final year attended the webinar. Students appreciated the session and the real practical load calculation examples shared provided a learning experience for students. The event was coordinated by Dr. Akanksha Mathur, ME department. The webinar was published on the YouTube channel of ISHRAE Gurugram chapter. The link for the same is:

<https://www.youtube.com/watch?v=nNS-8i4QyQA>

### **Webinar on “Chilled water AC system”**

The Department of Mechanical Engineering invited Mr. Yogesh Bhardwaj (Student chair - ISHRAE Gurugram chapter) for an expert talk through webinar on the topic “Chilled Water AC systems” on 20 August 2020. The speaker was Mr. Yogesh Bhardwaj, Founder & Director of E- Conserve Resources Pvt. Ltd. He has served in TERI, AHCON, PSI Energy in past. He has done several energy audits in commercial buildings. The session on the chilled water AC system was very informative and 23 Students. They found it very interesting



and got insights about the Chilled water AC systems from the expert. The event was coordinated by Dr. Akanksha Mathur, ME Dept., NCU.

### **Panel Discussion on “HVAC&R industry – career perspectives”**

A Career guidance session was conducted by ISHRAE, Gurugram chapter in collaboration with ME Dept, NCU on 22 August 2020. In this session, a Panel discussion on “HVAC&R Industry - career building perspective” was conducted followed by Q & A session for students. The invited expert panelists were Mr. Mohit Tripathi, Mr. Bhavya JAin, Mr. Ravi Shankar, Mr. Tarun Sachdeva from HVAC Industry and Dr. Akanksha Mathur, ME Dept, NCU. The event was moderated by Mr. Sumit Kumar, Youth Chair & SAC - ISHRAE Gurugram Chapter. B.Tech. Mechanical engineering students (Few students of DPGITM and 19 from NCU) of third and final year attended the session. The panelists talked about HVAC industry, the opportunities and challenges in HVAC industry. The session was followed by Q&A session. Students inquired about the qualifications and certifications to be HVAC engineer. Students inquired about the criticality of HVAC in covid era. Students gained knowledge about the various aspects of HVAC as a career option. Students appreciated the session. In this event, Dr. Akanksha Mathur, Assistant Professor (Sel. Grade), ME department was invited as panelist.

### **EWB (Engineers without Border)**

EWB NCU GURUGRAM is the group of members who have a mindset that we can achieve greater heights using both technical and non-technical aspects and help the society using these ideas so that we can help the society in a better way. We focus on the wholesome development of the members and for that we have 8 sub domains which covers various aspects of the society (technical and social).

### **AIM 2020**

All India meet 2020 was conducted by EWB INDIA in Bangalore where all the chapters of EWB INDIA represented themselves by sharing their progress and upcoming projects. We EWB NCU GURUGRAM being a student chapter presented our ideas for the benefit of the society. We were named as the most active society among all the chapters.

### **Awareness Campaign**

Observing the society and understanding the problems We, the EWB NCU GURUGRAM Chapter decided to start awareness campaigns such as Dental Camps, E-learning, Cyclothon etc. Our main motive was to aware people living in rural areas about the consequences and problems they might face in future.

### **Webinars**

With the help of our departments, we organised various technical webinars covering the sections such as robotics, marketing, Cultural, start-up, Women in Technology, Voice modulation and Coding Sections. Our main focus was to provide deep acquaintance about the respective topics.

### **Weekly Events**

Considering the side effects of lockdown, we decided to organise a full week event covering Tech and Non-Tech sections. Many events, webinars and online competitions were organized during this week for all students at school and college level to utilize their time and show their skills. Through these events we were able to reach 1500+ students and professionals. Some of the events covered by us were Tech events – Ideathon, Coding Competition, Webinars conducted by Guest speakers from all over the globe. Non-Tech - Photography, Meme Competition, Fit-India, Debate etc.

### **Code Wars**

The initiative led by EWB CODERS with collaboration by Coding Blocks for the students having keen interest in programming. It is basically a chain of competitions conducted by EWB NCU GURUGRAM Branch.

### **Donation Drives**

Due to current pandemic, sectors such as NGOs, Old Age Home, Animal Centre were affected. Keeping these situations and social distancing in mind, We EWB NCU GURUGRAM Chapter donated ration, stationary, sanitisation products etc. to the needy ones. Since this concept was led by students in these Corona situations, our work was highly appreciated. Those smiles and happiness were the biggest award till date to us.

## **American Society for Quality (ASQ)**

ASQ induction ceremony was organized on Nov 26, 2020 to make our new students fully aware of the advantages of being a part of the society. This session took place in the presence of one of the esteemed Alumni of ASQ NCU.

## **IEI**

### **E-poster Competition**

E-poster competition was organized in the week of 10-17 May 2020. The posters were invited from the students at the university on the theme of the World Telecommunication and Information Society Day: 'Connect 2030: ICTs for the Sustainable Development Goals (SDGs)'. Students participated enthusiastically and showcased their creative skills. Participants and winners were awarded with e-certificates.

### **World Telecommunication and Information Society Day**

World Telecommunication and Information Society Day was celebrated by the ECE students' chapter of IEI professional society on 17th May 2020 through Microsoft Teams. It was coordinated by Dr. Vandana Khanna, the faculty adviser of the chapter. A webinar of 'Industry 4.0' by delivered by Mr. AkshitDhyani, Senior Project Officer in WWF-India. It was followed by presentation of innovative projects by the students of the EECE dept. Projects such as 'Virtual Assistant For Visually Impaired People' and 'Smart Car Management System' (funded under VC innovation fund) were presented by final year students. Students of 3rd year working on live industrial projects with Greenstar research and development India Pvt Ltd presented their work.

During the last section of the event, the posters invited from the students of the university on the theme of the day 'Connect 2030: ICTs for the Sustainable Development Goals (SDGs)' were presented by one of the student coordinators. The celebration was concluded with the appreciative words by Prof. Ahuja. The event was liked and appreciated by the students, as they got to know new industry term as well as got the exposure of innovative projects implemented by their seniors. They look forward to such events in future.

### **Quiz on Engineer's day by ECE IEI chapter**

On the occasion of Engineer's day on 15 September 2020, ECE students' chapter of IEI society organized a quiz on an online platform that included questions from the various domain such as aptitude, coding, science, general knowledge for the overall development of the students. Aspirant engineers from all the Departments of SOET enthusiastically participated in the quiz and proved their ability. More than 50 students actively participated in the quiz and followed the rules of the quiz as well as maintained the decorum of the quiz. Student coordinators of the chapter worked hard and completed the task on time assigned to them by the faculty adviser- Dr. Vandana Khanna in organizing a quiz.

### **Workshop on 'Tinker with Arduino'**

ECE chapter of IEI society conducted an online workshop on 'Tinker with Arduino' on 27th November 2020. The speaker for the workshop was Dr. Vandana Khanna (faculty EECE dept. at NCU); she started with the basics of Arduino board and its coding in Arduino IDE. Then she moved on to Tinkercad platform for hands-on session of interfacing various sensors, display devices etc. Faculty explained the concept very nicely and the session was very interactive. More than 80 students of all years from the Departments of ECE, CSE and SOM actively participated in the workshop.

A couple of mini projects like - Intruder detector alarm and display on LCD, Smoke level detector with alarm etc. were also demonstrated. Various mini projects' ideas were shared with the participants. Student coordinators of the IEI-ECE chapter worked hard and completed the tasks assigned to them on time which proved to be a helping hand in organizing this workshop by the faculty adviser Dr Vandana Khanna.

## **Computer Society of India (CSI)**

The NorthCap University, Gurugram (Region - I) has been conferred the Best Accredited Student Branch (2017 - 2019) in recognition of significant contribution to the CSI activities. The following 10 events were conducted successfully in the previous academic year with participation of students from NCU and other States.

- October 25, 2020: Workshop on Building 3D Game Live
- September 25, 2020: Online Quiz on Music, Entertainment, Sports and Technology (M.E.T.S)
- June 20, 2020: Webinar on "Transitioning to New Normal – Empowered by Emerging Technologies"
- May 20, 2020: Career Counselling and Placement Booster Session

- May 10, 2020: Secret Recipe to be Skillful
- April 2020: Quarantine Diaries
- February 17, 2020: Code-O-Fiesta (OFFLINE)
- February 7, 2020: Expert Talk on User Story Slicing (OFFLINE)
- January 16, 2020: Society Fest (OFFLINE)
- November 7, 2019: TechQuiz (OFFLINE)

## Open Web Application and Software Project (OWASP)

OWASP Local Chapters build community for application security professionals around the world. There are 202 Chapter of OWASP. OWASP Gurugram The NorthCap University Chapter is a newly launched professional society in the University which comprises a group of budding cyber security aspirants who can support each other through the path to success with each and every step they take.

## Events organised in 2020

1. OWASP GURUGRAM CHAPTER organised a session on "Bug Bounty Unpredictable Battle" on 2nd October 2020 at 2 p.m. Paras Arora, Cyber Security Analyst from Detox Technologies delivered a Live hands-on session on it.
2. OWASP GURUGRAM CHAPTER celebrated CYBERSECURITY WEEK by organizing an informative session on KALI LINUX from 19th to 21st November 2020.



## SPIE EVENTS

EECE department organized a session on "Vocabulary building" from TIME education on 15.01.2020 for 2nd, 3rd year ECE students in Room No. N309 under SPIE Society. The objective of the session was to develop and understand how to built up good vocabulary and its usage in daily lives. Students actively participated and learn good vocabulary and tips to remember the synonyms and in sentence formation using effective vocabulary words. This session was coordinated by Dr. Anjali Garg and Ms. Amanpreet Kaur.

EECE department organized a session on Group Discussion preparation and Mock GD for 2nd, 3rd and 4th year ECE students by Ms. Tarannum Raza from TIME Education in Room No. N309 under SPIE Society. The objective of the session was to develop basic communication skills and develop a sense of bonding among the students. Students enjoyed the GD tips shared by the speaker and followed by mock GD session in two groups and put forward their views on different topics in a healthy manner. This session was coordinated by Dr. Anjali Garg and Ms. Amanpreet Kaur.

Tree Plantation programme was organized by the The NorthCap University on 17th Jan 2020 under SPIE Society. Students showed great enthusiasm in planting many saplings (trees) to keep the environment clean and maintain the sufficient level of oxygen in the environment. Need for planting trees is a must if we want to save environment for our children and future generations. Students knew that their hard work would rejuvenate ground water, avoid soil erosion, and save the environment. This event witnessed a keen response from the students as well as faculty members. This event was coordinated by Dr. Pankaj Rakheja and Ms. Amanpreet Kaur.

EECE department organized a session on "Quantitative Aptitude" from TIME education on 12 February 2020 for 2nd, 3rd year ECE students under SPIE Society. The objective of the session was to enhance the ability of a student to solve numerical and mathematical calculations in a very simple and fast way. This is very often required in most of the company and competitive exams. This session was coordinated by Dr. Anjali Garg and Ms. Amanpreet Kaur.

A Skill Development Programme organized by EECE Department on MATLAB and Simulink under SPIE Society.





First session was conducted on Basics of MATLAB and SIMULINK by Mr.Jitender Kumar , Senior Engineer ,Design Tech on 6th February 2020. Students from ECE,CSE and MSc participated in the session and found a learning experience for them to know from the scratch to the programming beginner. The second session was conducted on Automotive Software's used in the industry using SIMULINK design by Mr.Aman Singla (Alumni of ECE)on 13th February 2020 and students found the content very informative and good resource.

This Skill development programme was coordinated by Ms.Amanpreet Kaur and Dr.Sharda Vashisth.

EECE department organized a session on Resume Writing for 2nd,3rd and 4th year students of SOET/SOL/SOM by Ms. Shreya Gupta under SPIE Society on 27th August 2020. The objective of the session was to prepare the students for their placements. This session was coordinated by Dr. Anjali Garg and Ms. Amanpreet Kaur.

EECE department organized a session on Case Studies for 2nd ,3rd and 4th year students of SOET/SOL/SOM by Mr. Amit Poddar under SPIE Society in association with TIME Group on 29th October 2020. The objective of the session was to prepare the students for their placements. Case studies plays vital role in placements as they are used for interpretation of data and their analysis . He emphasized on how to solve the case studies and their strategies .Students actively participated in the session and it was very interactive session . This session was coordinated by Dr. Anjali Garg and Ms. Amanpreet Kaur and Student Coordinators were Aayush and Parth .

## Goa Trip 2019

The NorthCap University organised a trip to Goa for all of NCU students from 13 December to 19 December 2019. Forty-four students from across the three schools went on this trip. The students thoroughly enjoyed themselves during the trip that was packed with several activities full of fun and adventure.



## NCU All Staff Tournament

A tournament was organised for the staff members from 20 December 2019 to 24 December 2019. The tournament included Cricket, Table Tennis, Badminton, Carrom, Chess and Volleyball matches and Tug of War. The Faculty, Technical and Admin teams of the University participated in all matches with great enthusiasm. Besides the regular Inter-Departmental matches, a special Cricket match was played between Senior Faculty members (Gentlemen Blue & Ladies Red team) in which the Pro-Chancellor, Vice-Chancellor, Controller of Records & Dean RDIL also joined as members of the teams.



## Swachhata Pakhwada 2020

SAL subcommittee organised events under the Swachhata Pakhwada initiative of the Government of India from 16 January 2020 to 31 January 2020. Fourteen events were organized by the various Clubs and Societies of the University under the initiative. Students conducted various cleanliness drives, slogan writing and poster making competitions, awareness sessions etc. under the initiative.

## Poster Designing and Slogan Writing

The NorthCap University organised a poster designing, slogan writing and speech competition on the theme 'Swachhta' under Swachhta Pakwada on 20 January 2020. Around 25 students from across the three schools of the University participated in the event and showcased their creativity and innovative ideas. The students put forward their views and suggested how one could keep one's surroundings and the environment clean. The participants greatly appreciated the initiative of encouraging the youth to promote cleanliness.



## Water Conservation – Competitions

The NorthCap University organised a poster designing, slogan writing and speech competition on the theme 'Water Conservation' under Swachhta Pakwada on 22 January 2020. Around forty students from the three schools of the University i.e. the School of Engineering & Technology, the School of Management & the School of law participated in the event and showcased their vision and novel ideas. The students highlighted the significance of water conservation through their posters, slogans and speeches. They understood the alarming condition of the water resources in the country and took a pledge to spread awareness regarding the same.



## Forest Conservation-Awareness Campaign

The NorthCap University organised a poster designing, slogan writing and speech competition on theme 'Forest Conservation' under Swachhta Pakwada on 24 January 2020. Around twenty students from across the three schools of the University participated in the event and showcased their talent. The students, using their own novel way, emphasised the importance of forest conservation in today's world

They understood that Forest Conservation is an exercise of organising and preserving the forested areas for the benefit and sustainability of future generations. It comprises of protecting and preserving the natural resources within a forest. This conservation is essential for flora and fauna and also for humans and the ecosystem.



## Tree Plantation Drive at NCU

SAL sub-committee organised a tree plantation drive. Participating students showed great enthusiasm for planting saplings (trees) and as they understood that it would add to making the world greener and in maintaining a sufficient level of oxygen in the environment. The coordinators reiterated that planting trees is a must if we want to save our children and our future generations from harmful pollutants. Trees not only remove toxic chemicals from the soil but also help reduce the greenhouse effect, which leads to global warming. The students knew that their hard work would rejuvenate groundwater, avoid soil erosion, and save the environment. This event witnessed an enthusiastic response from the students as well as the faculty of the University.



## Recycling -Best Out of Waste

A competition on 'Best Out of Waste' (Under Swachhata Pakhwada 2020) was organised on 27 January 2020 in Café 10 Basement. The theme of the competition was to create useful items out of waste materials available in the surroundings. Eighteen students participated in the event. Models made up of waste material were also displayed in the event. The event was organised under SAL Subcommittee and was coordinated by Mr. Sumit Bhat (Mech. Engg. Dept.) and Mr. Niket Kumar (Student 2nd Year Mech. Engg.).





## Water Conservation Drive

The Students of Department of Civil & Environmental Engineering, The NorthCap University, Gurugram conducted a special drive on 'Water Conservation' under Swachhta Pakhwada Scheme 2020, Ministry of Jal Shakti, GOI on 28 January 2020. The prime objective of hosting this drive was to bring a positive change in the mindset of people as regards water conservation. The students, on the day of the event, created awareness about the need for conserving water by distributing pamphlets stating the Dos and Don'ts in the neighbourhood area. They also conducted simple verbal quizzes regarding the same. The team of students was highly motivated and made the masses realise the importance and need to take steps for conserving water. The event was coordinated by Mr. Lokesh Choudhary.



## Residential camp by NSS-NCU

The NSS-NCU chapter organised the annual residential camp for the year 2020 at Abheypur village in Gurugram from Friday, 24 January 2020 to Monday, 27 January 2020. Many activities were organized at the campsite, each with a motto of upliftment, awareness and education of the villagers. The camp began with a yoga and meditation session for the villagers. It aimed at guiding the villagers to lead a healthy lifestyle. Several team-building exercises followed the session. The inaugural ceremony also included dance and music performances. The performances were followed by an elaborate village visit. An education and cleanliness drive were also organized to make the villagers aware of the importance of the same. The team also conducted surveys in order to understand the position of women in the village and also the harms of drug abuse amongst the youth. The camp activities ended with self-defense training for the village children. After the successful completion of the camp, the volunteers left the site with a promise to come back again next year.



## Cleanliness Drive

A cleanliness drive was organised on 21 January 2020. Around 50 students, faculty and staff members of NCU gathered together for the awareness rally and moved both within the university campus and in the neighbouring areas of the campus. The volunteers spread the message of "Hum sab ka ho ek hi naara, saaf suthra ho desh humara" and "Ab sabko jagaana hai, Gandagi ko door bhagaana hai". The main motive of the rally was to sensitise the students about the necessity of a clean environment. The volunteers displayed banners with slogans on keeping the environment clean. They also collected litter from the surroundings as they moved around the University campus. The cleanliness drive was a motivating experience for all the volunteers and the crowd. The campaign was coordinated by Dr. Jahanvi Bansal (SAL sub-committee Member) and Dr. Shilpa Sindhu (NSS Co-ordinator).

## Health and Hygiene Awareness Campaign

A cleanliness campaign involving the participation of residents of the Girl's Hostel, the hostel warden and co-workers was organised on 25 January 2020. The drive was organised with a motive to clean the hostel and the surrounding area. The volunteers spread the message of keeping the place where they are living clean. The main objective of the campaign was to make the residents aware of how they could maintain good hygienic levels in the hostels. It included guidance on proper disposal of sanitary pads and information on how they could keep themselves away from many diseases resulting from poor hygiene. The students also helped the staff in cleaning the kitchen area and the dining area. The event was coordinated by Dr. Jahanvi Bansal and Dr. Shilpa Sindhu.

The Student Activity and Leadership Sub-committee (SAL) organized a series of online events through the different departments/Schools of the University amidst the Pandemic situation.

## Video Making Competition

A Video making competition was organized by The Exuberance club, School of Management on 10 May 2020. It was an inter-college event with the theme COVID WARRIORS. Students from various universities sent their entries for it. Students came up with beautiful thematic videos, capturing the situation amidst the lockdown and how corona warriors are coming forward to serve the society. Winners of the event were Sarthak Adlakha, SRM University, Uddeshya, SGT University and Gautam Bisla from NorthCap University.

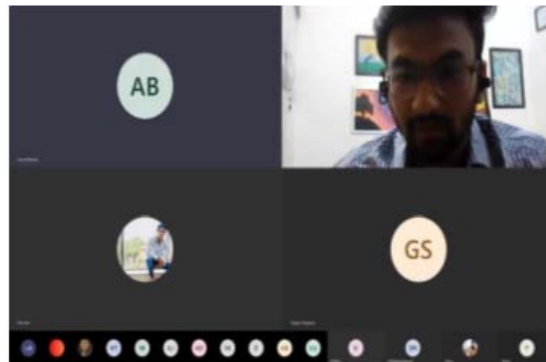
## Doodle Art Competition

An online Doodle Art competition was organised by Yukti on 11 May 2020. The main spirit of this competition was to encourage the students to engage in some constructive activities and participate in events that bring out their creativity. The winners of the event were Yukti Agarwal - 19CSU336 and Rishu Dahiya- 17BSM013. The event was coordinated by Dr Vaishali Sahu, Dr Shrutimita Mehta and Dr Tejpal Singh.



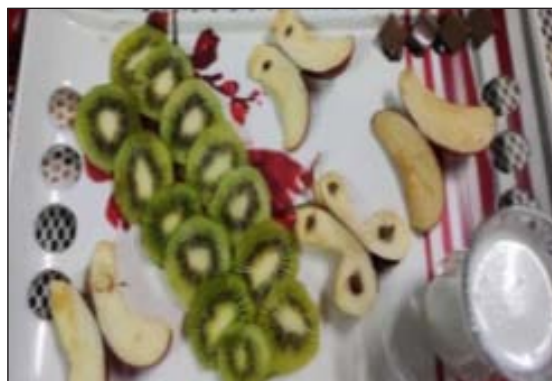
## Expert Lecture on Creativity and the Art of Upcycling

The Department of Mechanical Engineering organised a Lecture on 'Creativity and the Art of Upcycling' on 11 May 2020 by Mr. Naveen Goyal (Alumni of 2013 batch) working as GMC Member (B.D.), Vegazva. The students of Mechanical 1st, 2nd, 3rd, 4th year, 2nd Semester CSE and several professionals from the Industry attended the session. The Speaker engaged students with an Interactive discussion on Logo identification of different companies and also enlightened the students on the hidden meanings of different logos of various organisations. The students also played an Interactive game regarding how to think out of the box.



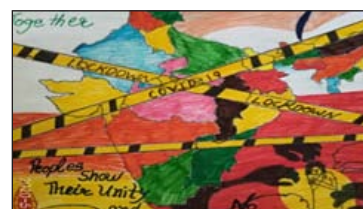
## Kazarikiri

Kazarikiri was a digitally conducted online contest in which the participants needed to submit a short video depicting their creative salad or fruit cuttings. The event was conducted from 15 May 2020 to 25 May 2020 and all the participants were awarded an e-certificate. The event received entries from students of different universities of Delhi-NCR. There were around 20 participants in total, and 8 entries were shortlisted for the final round. A thorough plagiarism check was involved in the selection of the finalists. Ms Geetika Arora from SGT University and Ms Perna Aneja from MSIT-Delhi were selected as the winners of the contest.



## Poster Making Competition

A poster making contest was organised around the theme 'Positive impacts of Covid-19' on 19 May 2020 by the Department of Applied Sciences and SAL subcommittee. There were two categories of participants-one of NCU students, and the other included students from different schools. Students expressed their views and thoughts on the main theme through digital and handmade posters. The enthusiasm of the participating students was visible through their creativity. They were inspired to think and work creatively in order to promote artistic excellence. All students participated in the right earnest in the competition. They came up with some fantastic creations. Three winners each were selected in both the categories. The judgment was made on the basis of originality, clarity of expression, Uniqueness and the depiction of the theme.



## The Great Bake-off Challenge

The Economic Collective, School of Management in association with SAL organised 'The Great COVID-19 Bake off Challenge' during the lockdown due to the spread of COVID-19. The event was organised on 16 May 2020, to add a pinch of fun to what felt like a never-ending quarantine and use the free time available to unleash the creativity within people. As they say, A Piece of Cake is Peace of mind. Since the event was conducted on a virtual platform, the participants had to make a video baking a cake at home and fast forward it to 2 x speed and share it with the judges. It encouraged the participants to engage in activities that brought pleasure to them and their families. The participants made some fantastic memories and received e-certificates as a reward. Eighteen students participated from NCU, and some were from other schools and colleges like Blue Bells Public School, Indian School of hospitality, etc. The winners of the event were - #Winnersoftheevent #1st Ishaan (Indian School of hospitality, Gurugram) #2nd Riddhima (Indian School of hospitality, Gurugram) #3rd Vidushi and Chhavi (The NorthCap University, Gurugram). The Judges for the event were Credits:

Ms Sonu Malhotra (Entrepreneur & Home Baker), Ms Deepti (Teacher, DPS and Home Baker), Dr Shrutimita (Deputy Dean - Students' Welfare, NCU) & Dr Divyabha (CLL-Head, NCU). Dr Priyanka Banerji and Dr Jahanvi Bansal coordinated the event.



## Expressions- Online Blogs and Poems

Expressions through Blogs and poems competition was organised on 17 May 2020 by SOL and Department of ECE. Forty-seven students participated in the event. Students shared their thoughts in the form of blog, doc, poems, slogans and posters. The first position was bagged by Mohit Yadav (poem) -17ecu012 and Sharadha Zutshi (poem) -19LLB073. The second position was grabbed by Nidhi Garg (Poster) - 19LLB096 and the third position went to Himanshi Yadav (Blog) - 19LLB114.

## Our Rights During Pandemic

A webinar on 'Our Rights During Pandemic' was organised by SOL on 22 May 2020, through YouTube Channel by 'NSS NCU Chapter'. The speaker of the session was Dr Shubradipta Sarkar from Jamia Millia Islamia University, Delhi. The primary objective of the event was to present an engaging, relevant and informative session on 'Our rights During Pandemic' to students from different colleges across the country. The event grabbed 820 live views and 1500 plus views for the webinar on YouTube video.



## VARTALAAP – The Debate Competition

VARTALAAP – A Debate Competition was organised on 1 June 2020 on Microsoft Teams. Each participant was given three minutes to impress the judges through their preferred medium of communication that is Hindi or English. Each one of them had different views on the topic chosen, and some of them came up with brilliant facts and figures in order to demonstrate their opinions. The winners of the event as follows- 1st position – Jatin Hooda, 1st runner up – Akshita Bhardwaj, 2nd runner up – Rakesh Kumar Nayak.



## Virtual Open-Mic Competition

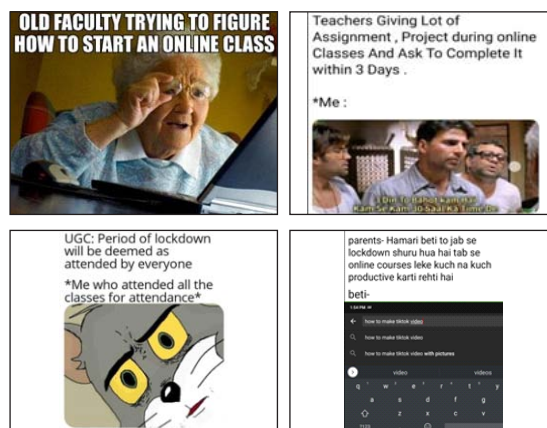
Virtual Open-Mic Competition was organised by CLL on 2 June 2020. Thirty-five participants from the following five domains participated in the event- Singing, Poetry, Shayari, Stand-Up and Short Story. The Judges of the event were- Dr. Jagdish Chaturvedi: Stand-Up and Short Story, Ms. Chandrani Sarma: Singing, Mr. Haider Saifullah: Singing, Mr. Navaldeep Singh: Poetry and Shayari. The Vikings Team kept the final selection criterion as 70% Judges Scores and 30% Live Vote Count. Total votes received were 339. The winners of the event were as mentioned - Stand-Up- Yashdeep Lamba and Umesh Aggarwal, Singing: Raahat Shaikh, Yashasvi Kalra and Fahad Masood, Poetry: Anjali Tanwar, Aniket Kumar and Umra Rashi, Shayari: Syeda Fatimah Zohra, Rohan Bhardwaj and Kushal Jindal.





## National Meme Making Competition

The School of Law of the University organised an online national meme-making competition on the theme 'Online Classes amidst Lockdown' on 15 June 2020. Entries came from students from various universities all across India. The entries were accepted online through google forms. For over a month the google form was kept open for entries to be accepted. Large scale promotions were made through various online platforms, legal websites like lawatraction.com and also personal invitations for participation were sent via emails. Students had put on their thinking caps and made hilarious memes on the topic. Top three entries were chosen and e-certificates were provided to all the participants. The faculty coordinators involved were Ms. Aashia Jindal and Ms. Mahima Mahajan.



## 'MATH-O-RUN'-Math Quiz

The Mathemactive Society of Department of Applied Sciences and SAL, organised an Inter-College online Maths quiz 'MATH-O-RUN' on 9 July 2020. The quiz was accessible to all students, and it was a crossword subject to the basic general aptitude, steady reasoning and puzzles and basic essential ideas of mathematics. Around one hundred and thirty-one students participated in the event. Eleven students were awarded the Best Mathematician Award stream wise. e-certificates are given to all the high achievers. The event was a huge success. All the students actively participated in the event. The event was conducted by Harshit (18CSU078), Piyush (18CSU156) and Tarun (19CSU322) under the guidance of Dr Anshu.



## Creative Writing Contest

The Exuberance club of The School of Management organised a Creative Writing Contest on 13 July 2020. The theme of the event was 'Depression among Youth'. Entries were invited for any creative content in the form of poetry, essays, or thoughts. A number of entries were received for the event from participants of different age groups. The participants presented their thoughts in the form of beautiful poetry, presenting stress, peer pressure, suicidal thoughts, and parental expectations and meeting societal needs. The event was coordinated by first-year B.com Students Parul Bansal and Rohan Chutani.



## Webinar on Socio-Legal Aspects of Domestic Violence

The School of Law, The NorthCap University, Gurugram in association with District Legal Services Authority, Gurugram organised a webinar on 'Socio-Legal Aspects of Domestic Violence' on 15 July 2020. Advocate Nutan Yadav, Empanelled Advocate, DLSA and Ms Ankhee Gupta, Psychologist and Counsellor were the speakers for the event. Advocate Nutan Yadav spoke on the legal machinery for redressal of Domestic Violence. Ms Ankhee highlighted the psychological impact of Domestic Violence on the victims and coping mechanisms for the same. The event was attended by 250 participants.



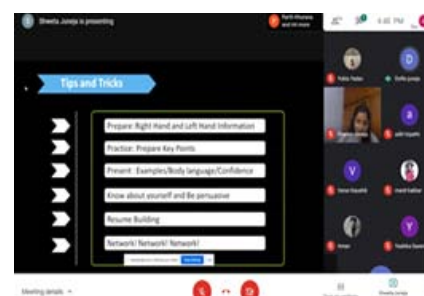
## Webinar on Personality Development

Club Success Mantra in association with Student Activities and Leadership Sub-committee and Centre for Language Learning organised a Webinar on Personality Development under the guidance of the Master Trainer Mrs Sunita Pourush on 15 July 2020. Mrs Pourush attuned the attendees to the fundamentals of Personality Development. She initially discussed the primary attributes of a 'good personality', comprising of a good physical health, pleasing manners, personal and professional integrity, trust and reliability and good control over one's body and mind. Furthermore, she discussed the impact of a healthy body, nutrition, personal hygiene and exercising on our personality. Mrs Sunita also touched upon aspects like body language, peer pressure and the willingness to take challenges. She then enlightened all with the 'Johari's Window' which expresses the hidden traits of one's personality. The lecture was followed by an interactive Q&A session in which the attendees actively tuned in to resolve their queries. The event received Two hundred and three registrations.



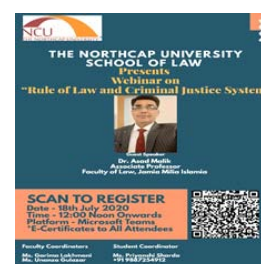
## Webinar on Skills to Crack a Job Interview

Club Success Mantra in association with Student Activities and Leadership sub-committee (SAL) and Centre for Language Learning organised a webinar on 'Skills to Crack a Job Interview' on 18 July 2020. The invited Speaker, Ms Dollie Juneja, guided the attendees to the basics of the skills required to crack a job interview. She initially discussed the interview process comprising of the Technical and the HR Interviews. She guided the participants on the various levels of the interview process, the group discussions and shared some prominent questions and preparation hacks. She also talked about Resume building and the various formats one could use to frame a resume. Her speech was followed by an interactive Q&A session.



## Webinar on Rule of law and Criminal Justice System

The School of law, NCU organised a webinar on the 'Rule of law and Criminal Justice System' on 18 July 2020. The Speaker of the webinar was Dr. Asad Malik, Associate Professor, Faculty of Law, Jamia Millia Islamia. He elaborated the topic with the help of recent issues of fake encounters, including that of Vikas Dubey. Almost 150 participants joined from all across the Nation, including academicians and students. The session was very informative and insightful.



## Webinar on Fostering Resilience and Wellbeing during the Pandemic

The School of Management organised a Webinar on 'Fostering Resilience and Wellbeing during the Pandemic' on 30 July 2020 by faculty from TISS, Mumbai- Ms Chetna Duggal and Ms Sukanya Ray. The event was informative and appreciated by the audience and coordinated by Dr Neha Aggarwal.

## Inter-University Debate Wrangle-Tangle

Club Success Mantra of Centre for Language learning in association with SAL Sub-committee organised an Inter-University Debate Wrangle-Tangle on the topic 'Relationships in the Online Era: Taking a Toll?' on 6 August 2020 through Microsoft Teams. The judges of the debate were Academicians having a rich professional background. Ms Perna Khurana and Ms Madhavi Chowdhary. The participants had to present their views either For or Against the motion 'Relationships in the Online Era: Taking a Toll?'. The participants were given 2 minutes each to present their viewpoints and were assessed on the basis of their use of words, the structure of their debate, confidence and expression, flow of ideas and logical reasoning. Seven shortlisted candidates from Round 1 proceeded to Round 2, which was the interview round where the participants were first questioned by our judges and then by fellow participants. E- certificates were provided to the winners and the participants.



## Math-Marathon

The Mathemactive Society of Department of Applied Sciences and SAL, organised an Online Inter-college competition 'Math Marathon' for all Higher Secondary and University level students on 16 August 2020. It was a single round quiz based on Fundamentals of Aptitude, Fundamental of General Propensity, Fundamentals of Arithmetic, and Logical Reasoning. It comprised of 25 questions with a restricted time of 45 minutes. Around 102 students participated in the event. 10 students were awarded Best Mathematician Award streamwise. 28 certificates of excellence were given to high achievers in mathematics Participation certificates were given to all. The event was conducted by Harshit (18CSU078), Piyush (18CSU156), and Tarun (19CSU322) under the direction of Dr Anshu.

## Expert Talk on AC Systems

An Expert Talk was organised on an online platform on 20 August 2020, by the ME Department, NCU. The Speaker for the session was Mr Yogesh Bhardwaj, Founder & Director of E-Conserve Resources Pvt. Ltd. He has served in TERI, AHCON, PSI Energy in the past. He has been a part of several energy audits in commercial buildings. The session on chilled water AC system was very informative. About 23 Students attended the talk. They found the session very interesting and got insights about the Chilled water AC systems from the expert.

## ARTHARGUMENT 2.0\*

A debate competition was organised by the Club The Economic Collective of the School of Management and SAL. The competition was held on Microsoft Teams on 14 August 2020. The Judges for the competition were: Mr Shubham Bansal – Faculty of Civil Engineering, NCU, Mr Mohammad B Shettima – an Economist from Nigeria and Mrs Sonika Sharma – Faculty of Economics (DAV public school) The winners of the debate were Navdeep Kodan – 1st position, Mihir Inlay – 2nd position and Vishal Bisht – 3rd position.





## Kavyaras-The Poetry Competition

The SYNERGY CLUB presented - KAVYA RAS, a poetry competition organised by School of Management, NCU on 21 August 2020 for NCU students, students from different schools and also for the Alumni of NCU. The event attracted more than 25 students from different schools of the University. The students made beautiful 2-3 minutes videos of their own Kavya (Poems) based on themes such as female foeticide, courage, women empowerment and child labour. The winners are- 1st Prize- Shreya, 2nd Prize- Shivani Dahiya 3rd Prize-Kumar.



## General Science Quiz

A 'General Science Quiz' was organised virtually on 28 August 2020 by the Department of Applied Sciences and SAL subcommittee. The activity was organised to explore and encourage general science skills, proficiency and aptitude of the students and offer them a platform to showcase it. The event received good participation from NCU students. The judgment was made on the basis of marks obtained by the students in the quiz which comprised questions from physics, chemistry, biology and mathematics domains. The event was coordinated by Dr Rajni Rohila.

## Brandathon

The Marketing Club at School of Management, NCU and SAL organised a brand quiz named 'Brandathon' on 03 September 2020 for all students of the University. The event attracted more than 60 students from the three schools of the University. The quiz shed light on various attributes of branding and involved participants in a quest to learn something new. The event was hosted online over Microsoft Teams. and the quiz was conducted on the online quiz platform Kahoot! A report was generated and shared with the participants on the spot, making it a highly engaging session. The event successfully brought together students from Engineering, Applied Sciences, Commerce and Management because of their passion towards branding. The event was hosted and moderated by Dr Akshat Aditya Rao. All the participants were given e-certificates.



## Webinar on ECO-FIN-LYRICS

The Economic Collective (TEC) Society of The School of Management, The NorthCap University organised a webinar on ECO-FIN-LYRICS. The webinar was conducted on 05 September 2020 on Microsoft Teams. A total of 133 participants attended the webinar. The webinar was based on the connection between Economics-Finance-Analytics taking the stock market as the base. Mr Varun Aggarwal, Managing Director – Profit Idea, Author BBNTIMES was the guest speaker of the session.

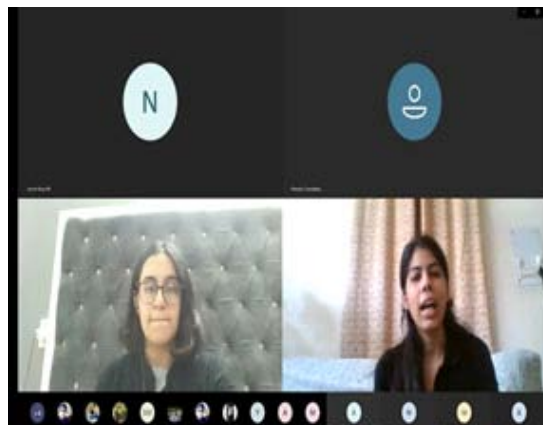
## Inter-University Maths Quiz

Mathematic Society of Department of Applied Sciences and SAL organised an Inter-University/College online Maths quiz 'MATHELETES' on 13 September 2020. The quiz included a crossword based on basic aptitude, reliable reasoning, riddles and fundamental of mathematics. 140 students participated in the event. Four students obtained 100% marks and 15 Students were granted Best Mathematician Award stream wise. 65 certificates of excellence were given to high achievers in mathematics. Participation certificates were given to all. The event was coordinated by Harshit (18CSU078), Piyush (18CSU156), and Tarun (19CSU322) under the guidance of Dr Anshu.



## Speech Weavers-Group Discussion Competition

Club Success Mantra in collaboration with Student Activities and Leadership Sub-committee (SAL) and Centre for Languages Learning (CLL) organized an Inter-University Group Discussion Competition–Speech weavers on 10 September 2020 on the topic 'Can artificial intelligence replace human intelligence?' The proceedings of the event were presided over by Ms Mridula Sethia and Ms Mandavi Chowdhary. The event received very good participation from students of NCU. All participants were awarded e-certificates.



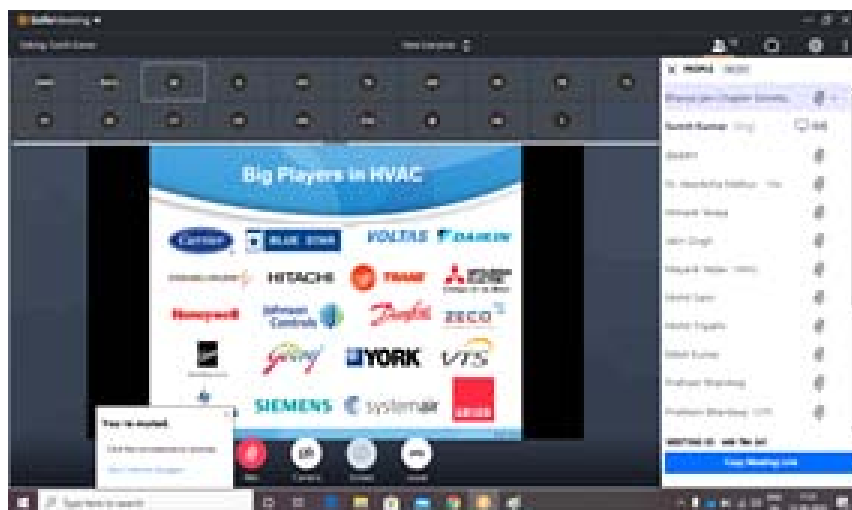
## Blog Writing Competition

THE ECONOMIC COLLECTIVE (TEC) of The NorthCap University, organized an inter-college Blog Writing Competition, on the topic: Impact of Dark Web on the Economy. The students were asked to submit their blogs by 1 October 2020. The event was judged by Mr Puneet Khanduja, Ms Alka Dhankar and Ms Sumedha Bansal. The results were declared on the official Instagram page of TEC-NCU on 28 September 2020. Selected blogs were published on the Instagram page of the University. Winners of the event were- 1st- Tanushree Ghai (Maharaja Agrasen Institute of Technology), 2nd- Chetna Kumari (Shaw University) and 3rd- Navdeep Kodan (The NorthCap University). The event was coordinated by Dr Priyanka Banerji.



## Career Guidance Session

A career Guidance session was conducted by the ME Department, NCU in collaboration with ISHRAE, Gurugram chapter in the form of a Panel discussion on 'HVAC&R Industry for Career Building Perspective'. The expert panelists were Mr Mohit Tripathi, Mr Bhavya Jain, Mr Ravi Shankar, Mr Tarun Sachdeva from HVAC Industry and Dr Akanksha Mathur, (NCU). The event was moderated by Mr Sumit Kumar. About 19 Students attended the session. The panelists talked about HVAC industry, the opportunities and challenges in HVAC domain. The session was followed by a Q&A session. Students inquired about the qualifications and certifications required to become an HVAC engineer. Students also inquired about the criticality of HVAC in the Covid era. Students gained knowledge about the various aspects of HVAC as a career option. The session was organised by Dr Akanksha Mathur, ME, NCU.



## Webinar on Challenges in Bio-piracy

The CIPRART, School of Law, The NorthCap University organised a webinar on 'Issues and Challenges on Bio-piracy in 21st Century: National and International Perspective' on 12 October 2020. The Speakers of the webinar were Ms Claudia Masoni, Professor, University of Pisa, Italy and Dr Nisha Dewani, Assistant Professor Maims. The webinar was conducted on Microsoft Teams, and seventy participants from all over India participated in the event.



## Momentum 2020

India's beauty and essence lie in its vivid culture which inspires mystique and creates a charm for millions worldwide to come, experience and even study our intricately woven culture. Diverse yet accommodating, we are a melting pot for different civilisations around the globe. With the intent to discover, elaborate, and envision the path back to Indian culture and roots, The NorthCap University, Gurugram organises its Annual Festival- 'Momentum' in the month of November each year. This year the University conducted the fest on 5th and 6th November 2020 on virtual platforms with equal excitement, vigour and passion. Surprisingly enough, the participants' enthusiasm and energy have proved that even the pandemic-led home-lock situation could not lock their strength, compassion, and excitement.

Our team figured out new ways to dive into cultural heat for this season by keeping a comprehensive list of 13-Cultural (Onstage) and 38-Technical/Non-Technical (Offstage) events to scale up. The online platform YouTube Live was chosen to let everyone access the event with ease. On the cold and light misty morning of day one-5th November, our honourable Vice-Chancellor inaugurated the festival and welcomed all with an insightful speech. Followed by the speech, we had several well-coordinated events in the series that kept the show go on 'live' for the next two days. Nearly 5.1k viewers watched the fest on YouTube and left their appreciating comments on our efforts. With more than 50 different events, our students displayed their talent, skills, expressions, and competencies. A massive hoard of students swarmed the event online. With an impressive line-up of a series of events ranging from the Fashion Show, Muscle Fit to Singing, and Dancing, the event enthralled masses of students through these Technical and Non-Technical events. Interestingly enough, to traverse our students' cultural knack, participants enfolded the Cultural heat in- Instagram Reels, Gaming like COD, rocket league, and more, Fashion show, Dancing, Singing, and much more spread across on both days. Comedian Parvinder Singh made the live audience laugh with several punch lines and jokes in the last lap of the fest. The most interesting point of the fest this year was that our alumni also joined us to give their best performance and enrapture the audience.

A university fest is always a memorable part of each student's life. Our flag bearer inter-college fest MOMENTUM always remains a congregation of students from various national and international reputed universities and colleges. To unite, rejoice, and represent our students' artistic potential, we keep encouraging them to push their boundaries beyond academics and provide a chance to everyone to showcase their hidden talent in various genres ranging from intellectual to exciting challenges. The winners of the various events conducted during the two days won exciting cash prizes and goodies. All the participants of the fest were given e-certificates. The University congratulated all the student organisers and the participants for doing the commendable job of making the event a great success.



Momentum 2020 Live stage  
6,022 views • Streamed live on Nov 5, 2020



Momentum 2020 Live stage  
26 views • Streamed live on Nov 5, 2020



## SPORTS

### Inter-Departmental Football Tournament

The Inter-Departmental Football Tournament 2019-20 was held from 11 to 13 February 2020. All teams displayed exemplary team spirit and played competitive matches that were thoroughly enjoyed, both by the participants and the viewers. The tournament was won by the CSE Team. The team included Aryan Malhotra-18CSU035, Hrishik Kaul-19CSU128, Harmeet-16CSU137, Yash Parasher-16CSU429, Tushar-17CSU200, Tushar-19CSU326, Tanish Uppal-17CSU195, Ishant Yadav-17CSU085, Ishant-19CSU182, Hemanshu Chatterjee-18CSU084, Udbhav-17CSU201, Raghavender-19CSU234, Shivam-17CSU178 and Rohan Bhardwaj-19CSU256. Team SOM bagged the second place after the CSE team.



# SCHOLARSHIPS

## Ninth Fee Concession & Scholarship Distribution Ceremony – 26 February 2020

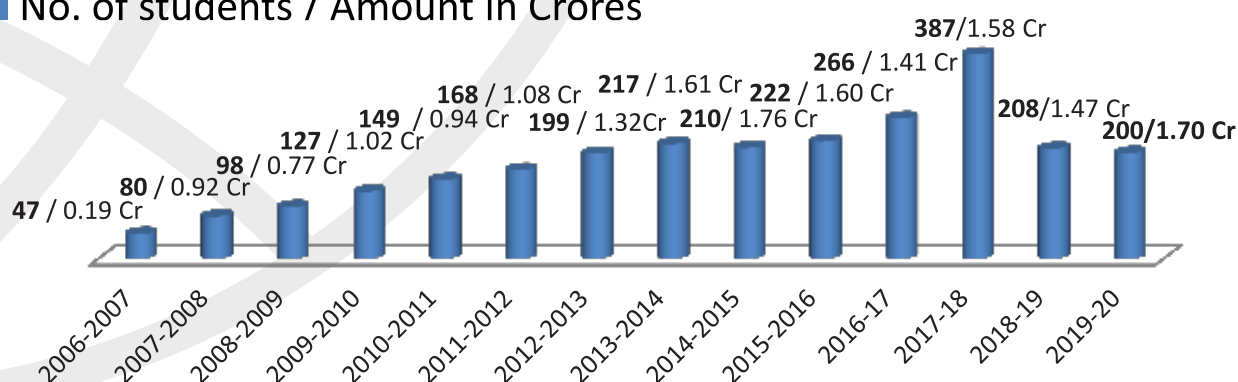
The NorthCap University, Gururam, held its *Ninth Fee Concession & Scholarship Distribution Ceremony* on 26 February 2020 in the University Auditorium. Shri. M. M. Singh, Director – Maruti Centre for Excellence was the Chief Guest of the ceremony. With 200 potential achievers and the fee concession amounting to Rs. 1.70 Cr, the event was a huge success. Shri. M. M. Singh Kumar congratulated every student while giving the scholarships to the meritorious students. Speaking on the occasion, the Chief Guest highlighted the necessity of hard work and perseverance, through which one can achieve success in life. Giving his own example, he reiterated that the students should remain focused in life and have a clear aim. All their energy should be directed to achieving their goal in life. He also mentioned that students should not disappoint their parents, who have sacrificed so much in their quest for success. He further said that much of life's success is governed by one's attitude rather than innate intelligence and that a strong work ethic, would take you far in life



Shri. M. M. Singh, Director – Maruti Centre for Excellence, distributing Scholarships to students on 26 February 2020

## Fee Concessions & Scholarships Awarded by NCU-Year Wise

■ No. of students / Amount in Crores



## Collaborations

Besides obtaining recognition by accreditation agencies and statutory associations, the University has been collaborating to share knowledge and resources with other universities and academic communities throughout the world. This is a part of an important strategy to accelerate and sustain success. The University is committed to providing students and faculty a unique life changing experience that will help them remain competitive and relevant to society. Our endeavour in this direction has resulted in successfully forging progressive alliances with premier institutions round the globe, a brief of which is presented in the succeeding paragraphs.

	<p><b>ISRO:</b> MoU between ISRO, Dept of Space, Govt. of India, Ahmedabad, and The NorthCap University for IRNSS Navigation Receiver Field Trial and Data Collection that will enhance research and innovation at the University.</p>
	<p><b>Michigan Technological University:</b> A Partnership Agreement with the University of Michigan Technological University Houghton, Michigan, USA was signed in March 2016, to implement the 3+1+1 programme in Computer Science &amp; Engineering.</p>
	<p>NCU students of MTech ECE and CSE are eligible to apply for a Master of Engineering degree in Electronics Systems Engineering and in Software Systems Engineering, respectively. The Selected students proceed to University of Regina, Canada after 2 semesters and get a Canadian degree in Master of Engineering.</p>
	<p><b>University of Chester:</b> A Partnership Agreement with the University of Chester, UK, was signed in 2012. The Chester Business School has over 1500 students with campuses at Chester and Warrington, and has a good reputation at undergraduate and postgraduate-level courses.</p>
	<p><b>ITB Ireland:</b> The University has an effective Partnership Agreement in place with ITB Ireland and is collaborating significantly in the mobility of students and faculty. The first students exchange started in September 2011 for a semester abroad programme. Various collaborative schemes for UG and PG students continue to be rolled out.</p>
	<p>Keeping pace with rapid technological advancement, the University has tied up with IBM Career Education and has set up an IBM Lab for Emerging technologies. Besides conducting Faculty Development Programmes, IBM conducts courses for ECE, CSE, MBA students, to give them a cutting edge in their professional courses.</p>
	<p><b>Chartered Institute of Arbitrators (India):</b> Students from the School of Law would benefit a great deal by this tie-up with CIARB. While doing their BBA-LLB (Hons) course, they would be in a position to add to their professional graph, one of the most sought-after futuristic areas-the field of arbitration.</p>



	<p><b>The Association of Commonwealth Universities:</b> We are a proud member of the Association of Commonwealth Universities and are actively participating in all its affairs. The University won the prize in the Social Outreach category in a competition held in the UK. It also bagged an Honourable Mention prize for its 2012 Annual Report.</p>
	<p><b>American Society of Quality (ASQ) India Ltd:</b> A students' chapter has been established with The American Society of Quality (ASQ) India Ltd to provide a certificate programme for students. We are the first university in India to be selected by ASQ to form a thriving Students' Chapter.</p>
	<p><b>Association of Indian Universities (AIU):</b> The University is now a member of the Association of Indian Universities (AIU). This has enabled us to refer to AIU for educational guidance to help improve standards of instruction, examination, research, textbooks, scholarly publications, participation in youth festivals or sports activities, publishing bibliographies of doctoral theses, and other such programmes which may contribute to the growth and propagation of knowledge.</p>
	<p><b>n+i:</b> The n+i engineering network, which is a consortium of over 70 French Grandes Ecoles (elite engineering institutes), is the largest network in France and offers student exchange programmes under an MoU with NCU.</p>
	<p><b>Accreditation Services for International Colleges (ASIC) UK:</b> A respected international accreditation body for academic institutions worldwide, reaccruited The NorthCap University with a status of 'Premier University' for a period of four years from Nov 2016. The University was awarded a grade of 'Commendable' in seven out of eight measurable areas of the university's operations.</p>
	<p><b>National Assessment and Accreditation Council (NAAC):</b> The University has been accredited by NAAC for a period of five years from 25 May 2016.</p>
	<p><b>Spoken Tutorials IIT Bombay:</b> Spoken Tutorials, IIT Bombay: An MoU has been signed between Spoken Tutorial Project, IIT Bombay and The NorthCap University. The agreement helps the University in conducting software training programmes in collaboration with IIT Bombay.</p>

	<p><b>ISEP:</b> We are direct members of ISEP, under which the students can be sent for a semester or a year to over 54 ISEP universities in 30 countries at an affordable cost. The host universities transfer credits after students complete all requirements. Students who have cleared their first two semesters at The NorthCap University are entitled to apply.</p>
	<p>An MoU was signed between NCU and Maruti Center for Excellence (MACE) in April 2018 to collaborate in the field of Training and Development of NCU students through practicals, theoretical trainings and projects during their internships. The collaboration extends to technical seminars and guest lectures also. The MoU will provide a platform to the students Department of Mechanical Engineering to enhance their technical skills followed by employability.</p>
	<p>Collaboration with American Society of Civil Engineers (ASCE), Reston, Virginia, United States for conducting ASCE's recorded / on demand webinars (with a local expert present) as well as holding conferences and continuing education activities at the NorthCap University, Gurgaon.</p>
	<p>University of Dayton, Ohio, USA signed a partnership agreement to undertake joint collaborative research and also for student and faculty exchange programme. The agreement was signed in May 2017.</p>
	<p>An MoU was signed between The NorthCap University and Daikin Air-Conditioning India Pvt Ltd (DAIPL) on 26 March 2018 to establish a 'Centre of Excellence' on HVAC Systems at the university that will impart practical skill training and industrial exposure to the students on the campus. The Centre of Excellence (CoE) is one of its kind set up by the Japanese Company – Daikin India in any educational institution in Gurugram.</p>
	<p>Collaboration with Delta Power Solutions India Pvt Ltd to develop and execute education and research projects, promote development of syllabi and activities that support research and development through work-integrated learning programmes– Cooperative Education. The partnership agreement was signed in January 2017.</p>
	<p>The NorthCap University has become a part of the BMW India's 'Skill Next' programme aimed at imparting hands-on expertise and practical training to automobile engineering students across the country.</p>

# INFRASTRUCTURE

## Design Centre @NCU

A digital revolution is currently underway, which permeates to every domain of our society like communication, education, medicine, transportation, farming and manufacturing. Crypto currencies are disrupting banking systems. Hyper connectivity through communication systems, sensors, wearables and smart devices has blurred the boundary between the physical and digital worlds. With an aim to bring all the emerging technologies like Data Science, Full Stack, Cybersecurity, Internet of Things, Cloud Computing, Game Technology, AR and VR under one roof, the University has set up a unique Design Centre at the campus. The objective is to help students and parents understand the basics of these technologies through visualizations, infographics and interactive AR applications with a VR demo zone. The walls of the Centre have been designed in a way that visitors get a fair idea about the USP's, curriculum and career aspects associated with the domain.

## Central Research Facility

A Central Research Facility (CRF) has been established at The NorthCap University with the objective of providing a central facility with the latest and advanced analytical instruments for research in the areas of physics, chemistry, engineering and interdisciplinary sciences. A total amount of Rs 1.2 Crore has been spent on establishing this facility at the University. It is equipped with the latest state-of-the-art equipment's such as UV-Vis-NIR Spectrophotometer, LCR Meter, I-V Pico-meter, Vacuum Coating Unit, Scanning Electron Microscope (SEM) etc.

The facility has been strengthened by adding new equipment's viz, spin coating unit and solar simulator in the academic year 2017-18. The Holography set up was also made functional by adding some more accessories. At present, around 30 UG and PG students and 20 research scholars are using this facility to pursue their projects/research work. Three research projects worth Rs 95 Lakh, owned by various faculty members, are being developed at the CRF. Members of the faculty have also submitted five more research projects, worth Rs 1.31 Crore, in which the facilities of the CRF have been projected to be used in the near future. A total number of 25 research papers have also been published by using this facility in the current Academic Year. Researchers from other reputed organisations are also using this facility to pursue their research work.





## ICT Facility

The University has a fully Wi-Fi enabled campus providing uninterrupted access to the Internet for all students and staff. The University is connected with fibre optics on a network which is wide, robust and secure. The NorthCap University has a 300 MBPS dedicated leased line, digital and multimedia Library, networked computer labs and Wi-Fi hostels. The core and distribution switches have been upgraded to enhance network performance.

There is a central computing facility at the University along with computers in the main Library, bringing the total number of computers available on campus to 966. Classrooms are equipped with LCD and LED projectors, with a common UPS to ensure undisturbed presentations.

Committed to the automation of various academic, financial and administrative processes, the University is at an advanced stage of completion of Enterprise Resource Planning (ERP) implementation based on cloud computing, in a tie-up with Digiuniv.

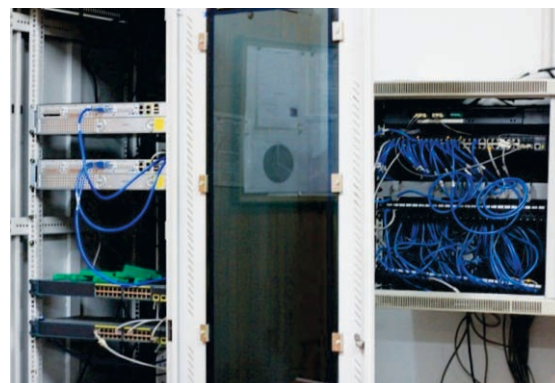
## Virtual Labs

NCU is a Nodal Centre for Virtual Labs, an initiative of the Ministry of Human Resource Development under the National Mission on Education through Information and Communication Technology, wherein eight IITs are currently involved. The aim of Virtual Labs is to provide remote access to labs in various disciplines of science and engineering, where the students can avail and share costly equipment and resources for learning, including additional web resources, video lectures, animated demonstrations and self-evaluation through remote triggering.



## Cisco Networking Academy

The Cisco Networking Academy at the University continues to meet the growing demand for ICT professionals and also improves the career prospects of IT students. Cisco certification is sought by IT professionals and greatly improves the prospects of students who want to build a career in the IT industry.



## Learning Management System

NCU offers an innovative learning system as a supplement to classroom teaching – an e-learning portal. The Learning Management System (LMS) provides students with online access to the course content offered at the University and to important academic information including lecture notes, recommended reading, tutorial sheets and assignments. LMS is provided through 'Moodle' as an institutional repository and as a content management system for e-learning. We want students to use this portal to prepare themselves before coming to the class, so as to have a better understanding of complex concepts.

## Enterprise Resource Planning (ERP)

NCU is an IT driven University where nearly all its processes are IT driven. Enterprise Resource Planning System (ERP) is based on Cloud computing, and a tie-up with Digiuniv Nyasa has added substantial efficiencies with the following modules in use:

### Admission and Fee Module

- Form Collection and Verification
- Fee Management System
- Student Records
- Class Management
- Related Reports

### Academic Module

- Semester Registration
- Time Table Generation
- Faculty Feedback
- Related Reports

### Attendance Module

- Bio-metric Attendance System
- Linking with ERP
- Related Reports

### Examination Module

- Admit Card Generation
- Grading and Results
- Related Reports

### Administrative Module

- HRMS
- Student Placement

## Information Technology

### IT Vision

- Identify a long term, sustainable and accessible solution that addresses increasing demands for storage and the integration and the interoperability of our ICT systems.
- Address user demand for sophisticated, high quality, ubiquitous and reliable ICT provision whilst recognizing economic constraints.
- Create additional efficiencies, whilst improving service quality through core ICT provision.
- Enable capacity to meet increasing network bandwidth demands and reduce single points of failure that would threaten the availability of network connectivity.
- Improve information security provision i.e. the confidentiality, reliability and availability of ICT systems.

Resource	Available
Computers	966
System & Application Software	55
Printers	115
LAN & Internet	Available on systems
Mail Server & Client	Using Google Apps from Google
Internet Bandwidth	300 MBPS
Wi-Fi Facility	Campus and Hostel has full Wi-Fi coverage through 125 access points
Surveillance	180 Cameras are placed the Campus for monitoring
NCU network has a backbone of optical fibre cable. Use of Unified Threat Management & Centralized Anti-Virus Server, Windows Update Server, Virtual Private Network Services, Learning Management System, Virtual Labs, Video Conferencing is provided. Access to the network from home – 24X7. Campus and hostels are fully Wi-Fi.	



## Physical Infrastructure

The university campus located in a clean and pollution-free environment is spread over 10 acres, with a covered area of over 32,000 square metres which amply caters to all its academic and administrative needs. The excellent academic infrastructure consists of over 60 classrooms, 18 tutorial rooms, 71 labs, 25 workshops, faculty cabins, seminar hall, conference rooms, media room, a 430 seat state-of-the-art auditorium with a well-equipped green room for participants and a double basement parking. Departments, laboratories and facilities have been further strengthened during the reporting year.

The open-air amphitheatre next to the sports ground is used extensively for various University functions, club and professional society activities. Many student groups are dedicated to community service and social action. The office of students' activities serves as a living-learning centre for students to coordinate a broad range of social, cultural, intellectual, educational and leadership programmes which are conducted throughout the year. It has sports facilities for nearly all indoor and outdoor sports. The cricket-cum-football ground is arguably one of the finest grounds in the NCR, with floodlight facilities for night sports. An air-conditioned two-storeyed cafeteria, student centre and incubation centre, covering an area of more than 15,000 sq ft, provides a unique experience to faculty and students. It has been designed with modern interiors and energy efficient concepts. NCU also has a branch of the Syndicate Bank with an ATM operating from its premises for the convenience of its faculty and students. In addition, there is also a Nestle and a Coco Cola outlet. The university provides hostel facilities to over 125 students. The rooms are well-furnished, and the hostels also have 24-hours power back-up system, treated water, Wi-Fi, intercom, indoor sports facilities, a central kitchen, entertainment and recreational facilities, and a bus to carry students to and from the university. The new building provides state-of-the-art classrooms, area for student activities and faculty rooms.

NCU is committed to the green movement. Campus-wide initiatives at reducing, reusing and recycling are helping it achieve a green code of living:

- **Use of renewable energy:** Based on green audit, installation of 150 KW rooftop solar PV system with net metering facility - possibly the first and only university to install it.
- **Energy Conservation:** LED lighting, false ceilings to reduce heat load, as well as abundant natural light makes the building energy efficient.
- **Water harvesting:** Rain water harvesting system with pipes going to 300 feet below ground level.
- **Sewage management:** 100 KLD sewage treatment plant to ensure zero discharge to municipal sewer line with plans to use treated water for horticulture. Garbage handed over to MCG for proper disposal. No hazardous waste produced on campus.
- **Efforts for Carbon neutrality:** Green footprint through 6 acres of green area out of 10 acre campus area.
- **Plantations:** Lush green gardens all around the campus. NCU is the winner of HUDA garden competition in Gurugram for 17 consecutive years.
- **Odd-even scheme for vehicles:** Ongoing scheme for reducing emissions thereby reducing air pollution.
- **E-waste management:** Disposal of e-waste is an emerging global environment and a public health issue. All loosely discarded e-waste is collected at the university and handed over to external vendors.

The Indian Meteorological Department, Ministry of Earth Sciences, GOI, has selected NCU for setting up an Automatic Weather Station (AWS). It will provide accurate and real time data of minimum and maximum temperatures, rain measurement, humidity, wind speed and direction, pressure, solar radiation etc. This will be beneficial to the residents of Gurugram especially farmers as they will get to know about the weather conditions in advance. It will help students and faculty in research and developmental activities of atmospheric studies. AWS is expected to be installed in June 2020.





# Library & Information Resource Centre

The Library and Information Resource Centre (LIRC) at The NorthCap University, a vanguard of its ever-growing infrastructure development, consistently receives principal attention from the university's management. It has a rich collection of books, journals and online resources. Currently, the LIRC has a collection of over 1,00,000 volumes (including Book Bank) in all areas of Engineering, Law, Sciences and Management. The LIRC subscribes to over 174 print journals from reputable publishers, institutions, societies, like the Indian Academy of Science Journals, IIMB Management Review, Decision, Vision, Harvard Business Review, BCI Journal, etc. LIRC updated its computerized services from Libsys 4 Software to Libsys 10 Software, during the reporting year. The circulation of books is done with the bar-coded system placed on each book and an RFID system is planned in the future.

## Salient facilities provided to readers are as follows:

- Extending support to the Government's campaign of 'Digital India', LIRC launched the first University Library Android mobile app which is available free of cost for download at Google Play Store so that users can access library resources 24x7 through their mobiles.
- Regular information and update on 'New Arrivals' is provided through group e-mails and also uploaded on the University's website.
- Remote access facility through VPN provides 24X7 access to the Library resources.
- NCU Library can be accessed 24\*7 online through LSearch Mobile app, which is available on Google Play Store. Through this, app users can check his/her account and access the collection.
- Notification through SMS/email on every transaction is sent to the borrower.
- Library has WEBOPAC which offers students the facility to reissue their books from anywhere.
- LIRC joined INFLIBNET Shodhganga theses repository (an initiative of UGC). It provides full-text access to the theses published in Indian universities, including those recently completed at NCU.
- LIRC is a member of DELNET (Developing Libraries Network) which offers students the Inter-Library Loan Facility.
- LIRC is also a member of the American Centre Library, New Delhi. The American Centre Library is a part of US consulate in India and provides library and education consultancy services to students.
- The Library is subscribing to various e-resources to fulfill user's information needs and to support undergoing research activities. Recently LIRC subscribed to new e-resources such as WestLaw, Ebsco Business Source Elite and Tata Mc Graw Hill.
- To facilitate students to prepare for their examinations, both internal/external, the Library timings have been extended to 10.00 pm on all teaching days.
- LIRC Photocopier machines have been replaced with new digital machines which provide faster and accurate services.
- LIRC has a separate reading room with a capacity for 250 students. This reading room has been equipped with comfortable seating arrangements.
- The Library has also been organizing training programmes and workshops for students and faculty members from time to time, particularly in the areas of using e-resources.
- To maintain the Library collection up-to-date, LIRC distributes old, outdated editions of books to students and faculty members, free of cost.



- The Library has started biometric punching to manage entry and exit of students to the library. It is in practice and functioning smoothly. Earlier it was being done manually
- The Library has started checking of books at the library gate through Libsys software and barcode scanner. This has increased the accuracy, efficiency, decreased chances of error and saves time. Earlier it was being done manually.
- To keep the users aware about the facilities and services offered by the Library, all important activities, notices, services and facilities etc. are displayed on a Digital Notice Board at the Library gate.
- A card swipe machine has been installed in the Library which provides the facility of paying fine through Debit/Credit card.
- To promote the reading habit and to increase the use of resources and facilities among users, the Library has put up posters, distributed flyers etc. to students.
- Facility for Tea/Coffee has also been made available by LIRC adjacent to the library, at a very nominal price

Discipline	No. of Books	No. of Journals		
		National Printed	International Printed	Online
Engineering & Sciences	55143	67	31	ASME: 27, ASCE :36
Management	6193	30	12	SAGE : 19, Ebsco Business Source Elite: 851
Law	5083	24	04	WestLaw: 1200+, SCC Online-150 MANUPATRA: 07

**In addition to these resources, Twenty-eight E-Books are also available.**





Details of facilities provided by LIRC are as under:

- **Online Renewal of Books:** LIRC provides the facility of online renewal of books to all its users. A borrower can reissue Library books issued to their account from anywhere through the WEBOPAC facility. The link to use this facility on the Library page is <http://opac.ncuindia.edu:8380/opac/search/search.html>
- **Reservation of Books:** This facility allows users to reserve books which are issued out and thus not available in the Library. Users fill the reservation form available at the entrance of the Library, and submit it to the gatekeeper. Users can find out about the availability of the book the next day.
- **Back Volumes of Print Journals:** LIRC has enriched its collection by compiling volumes of print journals coming to the Library. These volumes are available for reading and issue (only for overnight use).
- **Multimedia Section:** This section allows users to access the electronic resources subscribed by LIRC. Twenty dual-core machines with printer and scanner facility have been installed for users. Headphones for access to audio-video materials are provided.
- **Special Collections:** The LIRC has a special collection of theses gifted by Professor PremVrat, Pro-Chancellor of The NorthCap University. These theses are available for reading in the Library. The LIRC has also procured a complete set of 'McGraw Hill Encyclopaedia of Science and Technology' and many other important reference books for users.
- **DELNET (Developing Libraries Network):** In this information age, no library is completely sufficient to provide all the services to users on its own. Delnet is a National network of libraries established with a mission to support the member libraries and promote the culture of resource sharing. NCU LIRC is also a member of Delnet. Any user can request access to books and journal articles which are not available in the Library through Delnet.
- **Tata Mc Graw Hill E-Books:** LIRC subscribes to the TMH e-books database. These books are related to the areas of engineering, management, applied sciences, computer science etc. This database has many advanced features like the download of books, creating bookshelves within the database etc.
- **Online Resources:** LIRC subscribes to online electronic resources such as the American Society of Civil Engineers (ASCE), American Society of Mechanical Engineers (ASME), SAGE Journals, Ebsco Business Source Elite, Westlaw, MANUPATRA etc.
- **Notification on Every Transaction:** Library offers its students a user alert service. Users get a notification through email and SMS on every transaction.
- **Library Mobile App:** Users can access the library database anytime from anywhere on their phone with the help of LSearch mobile app by installing it from Google play store.



# SCHOOLS

*In keeping with the changing demands in education, NCU offers a redesigned curriculum that prepares students for the future workplace. The learning methodology integrates multidisciplinary and contemporary global pedagogy across Applied Sciences, Engineering & Technology, Law and Management along with skills and competencies such as critical thinking, problem solving and working in cross-functional teams that are essential constituents of modern day success. Academic life is full of opportunities that offers horizontal and vertical mobility and we also ensure the professional development of our students through engaging modules in personal development, communication and leadership.*



OUR WORLD OF  
**EXCELLENCE**

## School of Engineering and Technology

The NorthCap University's, School of Engineering & Technology (SOET) with its five academic departments of Applied Sciences (APS), Civil & Environmental Engineering (CEE), Computer Science Engineering (CSE), Electrical, Electronics, & Communication Engineering (EECE) and Mechanical Engineering (ME), forms the largest component of its academic arena. The school has recently revised its curriculum for a closer alliance with industries, and provide necessary skills to students to face the challenges of the real world. Each programme offered at SOET blends critical thinking and analysis with innovation, application and leadership qualities, theory and industrial practice in such a way that its graduates are ready to take on the rapid changes taking place in the field of industry and higher education both at the national and international level.



### Student achievements

- A. Prabal Goyal, Nikhil Taneja, Akshay Makkar, Animesh Das, Yatharth Piplani, Vibhuti Dahiya, Atul Singh, Aditi Tripathi, Virendra Pratap Singh of CSE department have secured first position(international) in IEEE R10 Student Branch Website Competition 2020 organised by IEEE R10 Student Activities Committee. They designed IEEE NCU SB website and got a cash prize of \$300. Ms Shrishti, Asst Professor, CSE was their mentor.
- B. Team 'Swacchta Prabandh', comprising of six members Ms. Eshita Mann (Team Leader), Mr. Dushyant Luthra, Mr. Lakshay Baweja, Mr. Hritik Kounsai, Mr. Devashish Nayak and Mr. Sahil Khurana with the official mentors Ms. Poonam Chaudhary and Mr Sumit Kumar from CSE, NCU, won SIH 2020 for the Problem Statement of Ministry of MSME, India. They got an amount of Rs.100,000/- as prize money and further collaboration with ministry to carry forward their project into reality. More than 10,000 participants competed for 36 hours (online) in Three-day Grand Finale, 4th Edition of SIH 2020.
- C. Team 'Technocrats', comprising of three members Mr. Nishant Khatri (Team Leader), Mr. Prabal Goyal and Mr. Prakhar Bhatnagar have been declared TechE Theme Champion for the IoT Domain at the Deloitte Technoutsav 3.0. They will get an amount of Rs. 75,000/- as prize money as well as a pre-placement offer from Deloitte USI. More than 20,000 participants registered for the competition, which continued for more than six months, out of which only 84 made it to the Grand Finale of the 3rd edition of Deloitte TechnoUtsav (online)
- D. Student members of IEEE Mr. Virendra Pratap Singh, Mr. Vatsalya Upadhyay and Mr. Animesh Das have been given positions at the Sectional, National and the Asia Pacific region.
- E. Ms. Aakansha Priya and Mr. Animesh Das, CSE Department secured the 3rd position with cash prize in WIEsionaries conducted by IEEE Delhi Section
- F. Ms. Shivani Vashishtha, won the 1st position in Blog Writing Competition conducted by IEEE Delhi Section SIGHT in collaboration with UNIC
- G. Mr. Shivam Vats, final year mechanical engineering student, presented a poster titled 'Crash-less Cars - It's Just the Beginning' at the Student Pavilion at NuGen Mobility Summit 2019, held at ICAT Centre 2, Sector - 11, IMT Manesar, Gurugram, Haryana from (27th – 29th November 2019).
- H. Mr. Ritik Bhatia, student of Mechanical Engineering Department has participated in the University project exhibition to showcase

their projects done in Tinkering Lab ECE IEI Students' Chapter on 12th and 13th December 2019. His project 'Automatic Gas Stove Controller' won the first prize (cash Rs 1000 + appreciation certificate). Patent on this project has been published in the month of December 2019 "Automatic universal LPG stove control device for boiling of liquids, Publication No.: 51/2019". Further, to commercialize the project, a team is working on development of small size saleable product through Vice Chancellor Innovation Funding Scheme (VCIF, NCU).

- I. Mr. Ritik Bhatia, 2nd Year ME student has participated in the Science Exhibition projects at BML Munjal University from 14 Feb 2020 to 16 Feb 2020. His project 'Automatic universal LPG stove controller for boiling of liquids' fabricated in Tinkering Lab of NCU secured the first position during the 67th Milestone 2020 event by BML Munjal University. He was felicitated with certificate and cash prize of Rs 5500/-.
- J. E-poster making competition on the Theme- 'Connect 2030 -How future world would be connected' was organized by ECE IEI students' chapter in the week of 11 to 17 May 2020. The selected posters were presented on the occasion of World Telecommunication and Information Society Day.
- K. Three students of B.Tech Civil Engineering, 2016-2020 Batch have qualified in GATE 2020. Kartik Yadav-AIR 3232 | Sagar Sharma-AIR 12560 | Ayush Dahiya-AIR 18449
- L. Mr. Mohit Yadav, Student of 3rd Year Civil Engineering along with his team from NCU participated in Breeze-2020 sports fest organized by Shiv Nadar University, Noida from 7th February, 2020 to 9th February, 2020. The team has brought laurels to the University securing the first position in the tournament.
- M. Students of CSE, NCU have received INNOVATION AWARD 2020, in Alibaba Cloud Global AI Innovation Challenge 2020. Alibaba Cloud has launched the Machine Learning Platform for AI (PAI) service to empower AI developers and innovators by lowering technical barriers and development costs. The Alibaba Cloud Global AI Innovation Challenge was an open competition for global AI developers, researchers, startups and solution providers to make and/or enhance their products or projects based on machine learning using PAI. Participants from 30+ countries have competed for two rounds of the competition. Our students Ms. Sachi Chandna, Ms. Rushika Shrestha, Mr. Tushar Jindal, Mr. Vaibhav Saini, Mr. Hritik Kapil, Mr. Hitesh Sharma, Mr. Yash Chaturvedi, Mr. Harshit Nagpal, and Mr. Diwakar Sharma with the official mentors Ms. Poonam Chaudhary submitted AI based solution for different real-life problems. They were able to showcase their problem solving, critical thinking with sound technical knowledge. Our students & Faculty have left their mark at the International Level.
- N. The IEEE Student Branch of our university has been felicitated with runners-up in the Student Branch Storyboard Video Presentation Contest at the IEEE All India Students Young Professionals Life Member's Women In Engineering Congress 2020. This award is given to student branches showing exemplary efforts in creating a yearlong impact. The winning team consisted of Mr. Virendra Pratap-17CSU207 (Presenter), Mr. Anshul Yadav- 18CSU027 (Video Editor), Mr. Dikshit 19CSU379 (Video Editor), Mr. Anveshak Parashar- 18CSU030 (Video Editor), Mr. Arnav Kabtiyal - 18CSU033 (Video Editor) who presented and prepared a top-notch video displaying the activities of their student branch in a creative manner.

## Programmes

The new scheme of study (2019-20) now incorporates more credits for project based learning and has provision for MOOCs, Learning through Tinkering and General Proficiency for promoting self-learning and enhancing employability of the students. Details are as follows:

## MOOC Courses

DEPARTMENT	COURSE NAME	NO. OF STUDENTS
CIVIL ENGG.	Design Thinking: A primer	10
	Basics of Finite Element Analysis-I	10
	Disaster Recovery and Build Back Better	60
	Building Cost Estimation simplified	15
	Soil Mechanics/ Geotechnical Engineering I	10
	Fluid Mechanics	15
	Design of steel structures	15
	Building materials and composites	15
	Advanced Concrete Technology	10



DEPARTMENT		COURSE NAME	NO. OF STUDENTS
CSE		Animations	1
		Introduction to Cyber Security	1
		The Joy of Computing using Python	4
		Mathematical Foundations of Computer Science	15
		Web Design: Strategy and Information Architecture	60
		Web Design: Wireframes to Prototypes	45
ECE		Advanced Digital System Design	
		ICA	
		Image Processing	
APS	Bsc (H) Maths	Mathematical Methods	10
	Bsc (H) Maths	Numerical Analysis	10
	Bsc (H) Maths	Complex Analysis	60
	Bsc (H) Physics	Thermal physics	15
	Bsc (H) Physics	Fiber Optics	10
	Bsc (H) Maths	Differential Equation II	15
	Bsc (H) Maths	Algebra	15
	Msc Maths	Fluid Mechanics	15
	Bsc (H) Physics	Digital Electronics	10
ME		Adv. Heat Mass Transfer	
		Adv. Machine Design	
		Into to FEM	
		Fundamentals of Materials Processing	
		Thermodynamics	

**Mapping of Co-Curricular Activities** with courses has been introduced in the Dept of EECE. During odd semester of Jan-June 2020, 3 courses were linked with co-curricular activities

S. NO.	COURSE NAME	CO-CURRICULAR ACTIVITIES IDENTIFIED FOR INCLUSION IN CONTINUOUS EVALUATION
1	Optical Communication	SPIE
2	Digital Electronics and Computer Architecture	Project through Tinkering Lab/IEEE/IEI
3	Digital Signal Processing	IEEE
4	Foundation Engineering	Project based Tinkering
5	Ground Improvement Techniques	Project based Tinkering
6	Design of Concrete Structures	Project based Tinkering

In current semester (July-Dec 2020) the following courses were linked with co-curricular activities with active participation.

S. No.	Course Name	Co-curriculum Activities Identified for inclusion In Continuous Evaluation
1	Analog Electronics	IEEE/IEI society
2	FAW	SPIE, National/International competitions
3	BEEE	IEEE/IEI/SPIE society, National/International competitions
4	DCS	IEEE/IEI society
5	AWP	SPIE, National/International competitions
6	OCS	SPIE, National/International competitions
7	IoT/Machine Learning	IEEE/IEI society

#### Skill Development Courses

Branch	Course Name	Course Hours	Number of Students
APS Jan. 2019-2020	C-programming	20	5
	Data Analysis using R Software	20	4
	Python	20	15
	Experimental Techniques	20	15
CEE July 2020-21	Innovation by Design	20	7
	Design, Technology and Innovation	20	15
	Geosynthetics Testing Laboratory	20	7
	Geotechnical Engineering Lab	20	7

**Spoken Tutorials** IIT Bombay: Various new courses have been introduced and students are getting blended learning experience through online courses as well like C, CPP, Advanced CPP, PHP, etc.

#### Publications

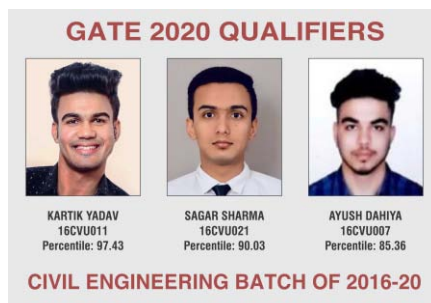
##### January 2020- December 2020

A large no of faculty members receive recognition for working as member reviewers. They presented research papers in journals and conferences at national and international levels, details of which are given below and at the end of the report:

S.No	Department	Total No. of Publications	Book/Book Chapter	Journal	Conference Proceedings
			National/International	National/International	National/International
1.	Applied Science	29	-	23	6
2.	CSE Eng.	41	8	24	9
3.	Mech Eng.	15	2	12	1
4.	ECE Eng.	24	4	16	4
5.	Civil Eng.	7	1	5	1

## Some of the outstanding student achievements are highlighted below:

### GATE EXAMINATION 2020



90% of our Faculty members are either PhD or pursuing PhD, of which 18 PhD Scholars will be awarded degree in the convocation ceremony. 2020

S.NO	NAME	BROAD AREA
1	Anil Kumar Mishra	Design and Evaluation of Metrics for Determining The Ubiquity Of Modern Information And Communication Technology Based Products and Solutions
2	Kusum Grewal	Quality of Service Analysis of Hospital Centred Wireless Body Area Network
3	Divya Jain	Chronic Disease Prediction using Machine Learning
4	Ashima Arora	Design and Performance Analysis of Fuzzy Based Adaptive Router Selection Strategy for on-chip Networks
5	Mahima Gupta	A Study of Performance Analysis and Management System of Indian Corrugated Industry
6	Radhakrishnan. K	A Critical Study of Post Trips Patent Regime in India
7	Shitika	Impact of Emotional and Spiritual Intelligence on Faculty Performance for Retention
8	Ram Sharma	Performance Evaluation and Optimization of Indoor Visible Light Communication Systems
9	Meena Mitran	Photocatalytic Activity of Zinc Oxide and Cobalt Oxide Nanomaterials in Waste Water Treatment
10	Barkha Bansal	Aspect Based Semantic Sentiment Analysis Using Sentence and Document Level Online Texts
11	Deeksha Thakur	Application of Neuro Linguistic Programming Tools for Effective Classroom Environment and Students' Performance.
12	Anju Arya	Alga-mediated Synthesis of Transition Metal Nanoparticles and to Explore Their Biological and Catalytic Applications



## Research Orientation

### VC Innovation Fund

The University continues to encourage innovative ideas of students. Following are the details of the projects and award amounts:

#### September 2020

S. No.	Project Title	Student Details	Mentor	Fund Granted
1	Vehicle Payload Monitoring System	Nishant Yadav Nishita Yadav Ritik Bhatia Balpreet Singh	Dr. Anjali Garg Dr. Satnam Singh	Rs 53,720/-

## Sponsored Research Projects till January to December 2020

S.No	PI & Department	Project Title	Scheme	Duration (yrs)	Date of Sanction	Total Funds received (Rs. Lakhs)	Status
1	<b>Dr. Phool Singh</b> (APS) and Co-PI: Ms Jyotsna Singh (CSE)	A computational model for STN (sub thalamic nucleus) in Parkinson Disease to investigate the discharge patterns	DST (CSRI)	3	09.07.15	₹ 15.58	Completed
2	<b>Dr. Chetna Tyagi, Dr Ambika Sharma</b> (APS)	Study of Polymer nanocomposites for solar cell applications	DST (WOSA)	3	31.05.16	₹ 17.44	Completed
3	<b>Dr. Aditya Sharma</b> (APS)	Lateral Flow Assay Strip Sensor Development for Non-Invasive Point of Care Diagnosis of Urinary Tract Infection	DST (SERB) Young Scientist	3	29.06.16	₹ 35.00	Completed
4	<b>Ms Geetika</b> (CSE)	Phylogenetic Model for cancer classification	DST (WOSA)	3	16.08.16	₹ 7.35	Completed
5	<b>Ms Pooja Sabharwal</b> (ECE)	Delineation of QRS complex for feature extraction of Myocardial Infarction in single lead ECG signal	DST (WOSA)	3	12.05.16	₹ 6.05	Completed
6	<b>Dr. Akansha Singh,</b> Co-PI: Ms. Sumanlata Gautam (CSE)	Emotion recognition system for autistic children	DST (CSRI)	3	11.05.16	₹ 7.40	Ongoing
7	<b>Dr. Kavita Khanna</b> Co-PI: <b>Dr. Rita Chhikara</b> (CSE) and Dr. Rakesh Kumar Dua (Max Hospital shalimar bagh)	Detecting Dementia using Deep Neural Networks	DST (CSRI)	3	28.06.2018	₹ 14.10	Ongoing
8	<b>Dr Anjali Garg</b> (ECE) Mentor: Prof. B.K Das	Power generation and control of solar energy	DST (WOSA)	3	11.03.2019	₹ 15.98	Ongoing
<b>Total in Crore</b>						<b>₹1.18</b>	

- During the reporting year, Eight research projects for a total amount of Rs 1.92 crore have been sanctioned by funding agency and Rs 1.18 crore has been received till date. Five DST project of Rs 81.42 Lakh has been Completed in 2020. In addition to these, 5 research projects (from January to December 2020) have been submitted to various funding agencies.
- Our faculty members have been actively participating in national and international conferences and seminars in India during the year. As a result, 106 journal papers have been published in refereed journals (from January to December 2020). Year 2020 has been a productive year for books, book chapters and journal publications by the faculty, the details of which are placed at 'Appendix – C' for reference.

### Consultancy Details

Following Consultancy Projects were undertaken by University in aforesaid period.

S.No	Details of the Consultancy	Title of Consultancy	Name of Faculty and Dept.	Amount Received (Rs/-)
1.	CISCO (CCNA Module)	CCNA Module	CSE	96,000
2.	PYTHON FOR DATA SCIENCE	NTRO	CSE	2.5 Lacs
1.	CCNA CISCO CERTIFICATION TRAINING	NTRO	CSE	6.25 Lacs
<b>Total (in Rs. Lakhs)</b>				<b>96,000</b>

### The NorthCap University Testing Center

The NorthCap University Testing Center (NCUTC), established by Department of Civil & Environmental Engineering recently obtained NABL accreditation. NCUTC is involved in the mechanical testing of the building and construction materials.

NCUTC follows the managerial and testing procedure guidelines as per International standard ISO:17025 - 2005 and NABL guidelines, which is National Accreditation Board for Testing and Calibration Laboratories (NABL) is a Constituent Board of Quality Council of India.

NCUTC provide third party assessment of quality in the area of mechanical testing of building and construction materials, such as, cement, aggregate, concrete, soil, bitumen, etc.

### Patents published/awarded during the year

Sr. No	Name of Patent	Patent Filed Date	Name of the Faculty
1.	IP-System: Intelligent Printer System to Remove Text on Paper and Reuse of Paper and Ink	25/06/2020	Dr. Sharda Vashisth, Dr. Neeraj Kumar Shukla, Dr. Anjali
2.	I-Calculator: Voice based intelligent calculator	20/03/2020	Dr. Sharda Vashisth, Dr. Neeraj Kumar Shukla
3.	Village-ATM: Multimodal biometric system for one stop banking for rural India	20/03/2020	Dr. Sharda Vashisth, Dr. Neeraj Kumar Shukla
4	IBA System: Intelligent biometric authentication system to transfer the amount to registered account number	07/02/2020	Dr Sharda Vashisth
5	IPC-system: intelligent power control system of any power backup	20/03/2020	Dr. Anjali Garg, Ms. Kusum, Dr. Jyotsna
6	System and Method for Detecting a Potential Vehicle Collision and Providing Alert	19/06/2020	Dr.Shilpa Mahajan
7	Pam-Physical Fitness: Prediction of fitness and physical activity level using machine learning programming	27/08/2020	Prof, Ram Karan Singh



8	Mcho Block-Chain Technology, Medicine, Clinical Test And Healthcare Observation using Block Chain Technology	03/09/2020	Prof, Ram Karan Singh
9	Itpi-Steel and Mining Waste Management Intelligent Technology And Process Management for Steel Industry and Mining Waste	20/10/2020	Prof, Ram Karan Singh Shukla
10	Ams: Automatic Net Arrangement System for Multiple Sports.	07/06/2020	Dr. Esha Jain and Dr. Satnam Singh

## PhD Programme

No of Students	Department	Broad Area
35	Computer Sciences & Engineering and Information Technology	Cyber Security , cryptography, Malware Analysis, Machine Learning, Image Processing using Soft Computing, Image analysis, Machine learning, Data Mining, machine learning, Smart Video Surveillance (IOT & Image/video Processing) and Medical informatics, wireless sensor networks, AI and Big Data, Cloud Computing, Fog Computing, Distributed System
30	Applied Sciences	PHYSICS: Condensed matter physics (glasses), Optical image processing, Thin Films; Amorphous Semiconductors, Thin film solar cells, Polymer, Nanocomposites, Nanomaterials, Solar cells, Lasers and Non-linear optics Nanomaterials and piezoelectric devices, Digital Holography, Supercapacitors, Organic Semiconductor device CHEMISTRY: Nano-chemistry, Organic Chemistry, Environmental Chemistry, Biochemistry, Biophysical Chemistry, Biosensors, Electrochemistry, Lateral flow assay MATHS: Image Processing, Queueing Theory, Data Analytics, Graph Theory and Discrete Maths, Coding Theory, Approximation Theory, Operations Research Applied Mathematics, Differential Equations, Control theory, Computational Fluid Dynamics
31	Electrical, Electronics & Communication Engineering	Wireless Communication, Signal, Speech and Image Processing, VLSI and Semiconductor devices, Power System, Renewable Energy, Control System, Biomedical Electronics
3	Mechanical Engineering	Thermo Fluid, Industrial Engineering, Production Engineering, Mechanical Engineering Design
8	Civil Engineering	Structural Engineering, Earthquake Engineering, Water resources, Environmental Engineering, Geotechnical Engineering
5	Centre for Language Learning	American Literature, British Literature, Indian Writing in English, English Language Teaching
17	Management	Finance, Economic, Marketing, HRM
16	Law	Human Rights, International Law, Environmental Law, Constitutional Law, Personal Laws, Criminal Laws, Intellectual Property Law, Corporate Law, Commercial Dispute Settlement Law, Technology Law

135 doctoral students are currently registered with the University to carry out their doctoral dissertation research work: SOET – 112, SOL - 6, SOM - 17. Ten students have submitted Ph. D. theses and one have submitted Ph.D. synopsis.

## Daikin Industrial Training Programme

Students of Mechanical Engineering attended forty-five days Industrial Training on completion of their Sixth Semester. Daikin conducts this programme with the intent to identify high potential candidates, who can be groomed and considered for hiring. Three students of Mechanical Engineering Department, who attended this programme, were shortlisted by Daikin.

## NavIC Lab

The NavIC Lab at the University, which was inaugurated last year is continuously recording data from IRNSS satellites 24\*7 and after analyzing it, sends it to SAC-ISRO, Ahmedabad on a weekly basis. Research work on the following topics is planned in the NavIC Lab:

- IRNSS disciplined Oscillator
- Common view time transfer
- Positioning accuracy using IRNSS
- Time Synchronization technology using IRNSS
- Study of ionosphere using IRNSS
- Difference in positioning accuracy with and without 7th satellite IRNSS-1I.

## Upgradation of Labs

Two Computer Science Labs were upgraded with the configuration: DELL i5 7500 3.4 GhZ, 16GB RAM, 1TB HDD

Thirty licenses of Solidworks software have been integrated with CAD lab and installed on Twenty-five high performance-workstations. The software has added value to learning in terms of modelling, designing, and analysis of new products. It will also help in designing projects, research work, skill development, and consultancy. Planning for faculty training, student workshops, and integration with courses is under progress.

## Internship/Higher Education/Placements

4th and 6th-Semester students went on summer Industrial Internship in core companies and leading industries like L&T, Airport Authority of India, Huawei Telecom, Airtel, Ericsson, Siemens, BSNL, Mentor Graphics, Power Grid, C&S Electric India Ltd., DMRC, Exicom, Minda, Reliance Jio, DLF and many more. Several students of the University did project-based training. For a group of ten students, one faculty mentor was assigned for counselling and feedback.

Ministry of Human Resource Development (MHRD), GOI, launched 'Swachh Bharat Summer Internship – 100 Hours of Swachhata' under which college students were to perform at least 100 hours of 'Swachhata' related activities in rural areas from 1 May to 31 July 2018. Thirteen students from SOET successfully completed the Internship in 19 selected villages. All participants received a 'Swachh Bharat Internship Certificate' along with two curriculum credits. To ensure better employment opportunities for students in both the local and overseas job market, the University in association with MAGES Institute of Excellence, Singapore, provided six weeks of Summer Internship in Virtual and Augmented Reality to 20 students of BTech, CSE and ECE from 4 June to 13 July 2018. Students created solutions for the healthcare industry in Singapore using emerging technologies and thereby gained an industry-relevant portfolio.

To ensure value addition and enhance employability of students, under the MoU with Maruti Centre for Excellence (MACE), the Dept. of ME organised six weeks of Summer Internship in engineering analysis (using ANSYS Software), PLC programming, and CNC programming modules for Nineteen students of BTech from 4 June to 13 July 2018. The programme included four weeks of training at NCU and two weeks of training at the MACE Centre. The IIIC Cell in the Dept of CSE&IT facilitated 17 internships in Ansyst Consulting, eSecForte, MMB, LendBox and other companies in February 2018 and facilitated 11 Internships in March 2018. Vivek Thakur, Final-year, BTech CEE, bagged a paid Summer Internship with Environment Design Solutions Pvt Ltd, New Delhi, through the efforts of the students and the Dept. of CEE. He received a total stipend of Rs 22,000/- for his excellent performance. Laveena Garg, BSc Maths (Hons.), Third Year, secured All India 20th Rank in IIT-JAM 2018 (Joint admission test for MSc at IIT's, NIT's, IISER) conducted by IIT Bombay and is pursuing MSc from IIT Bombay.

## Results

### UG Courses

DISCIPLINE	TOTAL STRENGTH	TOTAL PASSED	FIRST CLASS WITH DISTINCTION	FIRST CLASS	SECOND CLASS
B Tech CSE	415	411	68	307	36
B Tech CV	30	30	4	23	3
B Tech ECE	70	67	5	56	6
B Tech ME	81	78	10	56	12
BSc(Maths)	16	15	4	8	3
BSc(Physics)	10	10	1	9	0

### PG Courses

Discipline	Total Strength	Total Passed	First Class with Distinction	First Class	Second Class
MTech	13	13	5	8	0
MSc (Maths)	13	13	1	11	1
PhD	-	12	-	-	-

### Medals Awarded

Programmes	Gold Medal	Silver Medal	Bronze Medal	Certificate of Merit	Total
BTech (All branches)	4	3	3	-	10
BSc(Maths)	1	-	-	-	1
Bsc (Physics)	1	-	-	-	1
Msc (Maths)	1	-	-	-	1
Mtech (All branches)	3	-	-	1	1

## Dean's List

Students with outstanding performance across the university are included in the Dean's List every year. The Dean's List of School of Engineering & Technology is as follows:

### UNDERGRADUATE

Aastha  
Abhyudaya Pujari  
Bhavya Gauri  
Malhar Sharma  
Praanijal Agnihotri  
Priyansh Gupta  
Pulkit Sharma  
Rashi Gupta  
Ravi Kumar  
Sachit Bhagwanani  
Tanishka Tayal  
Tarun Sharma  
Udit Kapoor  
Unnati Sharma  
Vinay Rana  
Yajus Gakhar

Binay Kumar  
Ananta  
Rubal  
Sachi Chandna  
Aakansha Jain  
Ananda Sreenidhi  
Arunima Dahiya  
Bhavya Nangia  
Eshita Mann  
Sahil Khurana  
Sourav Ahuja  
Abhishek Jain  
Archita Raj  
Geetika Singh  
Ishita Mehta  
Pranav Garg

Sahil Sehrawat  
Aditya Varshney  
Harsh Kumar Sharma  
Nishant Yadav  
Vibhu Mehta  
Aman Sharma  
Vinit  
Lehar Sharma  
Yazur Garg  
Sanskar Bansal  
Valiveti Chetan Kumar  
Shivani Sharma  
Hrithik Kumar  
Zaid Hasan Khan  
Yatin Bajaj  
Rishi B Mathur

### POST GRADUATE

Divyank Suman  
Kashi Nath Sharma  
A Nisha Rani  
Pooja Yadav  
Karishma Yadav  
Nisha Sharma



## Centre for Languages Learning

*The Centre for Languages Learning (CLL) offers courses on Effective Communication as well as compulsory foreign languages viz., German, Spanish and French to students across all schools of The NorthCap University. CLL also offers value-based course Human Values and Professional Ethics and a skill-based course- Campus to Corporate. The Centre is offering a PhD program in English since 2017. During the reporting year, it has put in concentrated efforts to achieve all round excellence in academics as well as extracurricular activities.*



### Session on Study and Working in Germany

A session on Study and Working in Germany was conducted by Ms. Sanju Kumari, Founder of ConverseLogix. Ms. Kumari is an expert on Indo-German Higher education system. She has represented two renowned German universities in India for more than 10 years and worked on different joint projects funded by the Indian and German governments. The session included inputs on the higher education system in Germany, the advantage of knowing German language and the various scholarship programs available for students to study in Germany after their bachelor studies in India. Students received detailed information on making their careers in Germany.



### Language Lab Upgradation

The Language Lab was upgraded by Oréll, the Global Leaders of Educational Technology Solutions. Oréll is a next generation information technology enabled solutions provider exclusively serving the education domain. Oréll indisputably leads the educational software realm with promptly accomplished administrative and management tasks with ease. This upgraded Language lab allows students to practice the language with a much wider variety of online activities and exercises. Learning occurs in a structured way, in a real context and visually attractive way that immerses the student in the language learning environment and promotes language use.



### Workshop on Communication Skills for Technical Staff

Strong communication skills enable employees of an organization to be more effective by increasing their efficiency, workplace relationship and productivity. Keeping this in view, a series of workshops on Communication skills were planned for the Technical Staff of the University. Three sessions were conducted in the reporting year.



The faculty of CLL attended The Faculty Development Program on “New Digitally Enhanced Education” for “Covid19 digital Era of Education” from 20th July 2020 to 25th July 2020 at NCU. During the FDP, the faculty prepared LMSs and Online delivery models as preparation for the next semester. CLL won the prize for the Best Prototype Model presentation.

Keeping in mind that an effective teacher is also required to remain at the frontiers of knowledge in his/her areas of subject expertise and gain working knowledge of other domains, faculty members were engaged in attending faculty development programs throughout the year at various platforms. Faculty members and research scholars were extensively busy in research work, presenting research papers at National and International Conferences and publishing research articles.

# School of Management

*The vision of the School of Management and Liberal Studies (SOM and LS) is to be a leading management school emphasizing on academic excellence, research, innovation, entrepreneurship and developing socially sensitive managers. The School of Management and Liberal Studies draws upon the faculty resource and knowledge base of School of Engineering and Technology and School of Law so that its students get holistic pedagogical support, which is vital for today's fast-changing business world.*

## New Programmes Initiated

The School has started three new specializations, viz., Masters of Business Administration (MBA) with specialization in Business Analytics; Bachelors of Business Administration (BBA) with specialization in Business Analytics; and Bachelors of Business Administration (BBA) with specialization in Digital Marketing.

The objectives of introducing BBA in Digital Marketing and Business Analytics is to provide knowledge in management disciplines with an understanding of its applicability in business decision making for positive social impact, to strengthen the foundation for further specialization in the domain of Digital Marketing, to inculcate an attitude and desire to learn and to develop competent professionals committed to excellence. The objectives of introducing MBA in Business Analytics is to gain a sound understanding of the mathematics and statistics upon which advanced analytical methods are based, building on your quantitative background, and to develop a deep understanding of the way a business runs, including operations management, supply chain management and marketing.

The School is successfully running the three-year UG programmes of BBA, B. Com (H), BA (H) Psychology & BA (H) Economics, two-year full-time MBA programme and PhD in Management. The admission criteria for the various programmes are as under:

BBA: Minimum 50% in Classes XII - best of five

B. Com (H): Minimum 50% in Class XII with 50% marks in either Accountancy or Mathematics - best of five BA (H) Economics: Minimum 50% in Class XII with 50% marks in either Economics or Mathematics - best of five BA (H) Psychology: Minimum 50% in Classes XII - best of five

BBA with specialization in Business Analytics: Apply with 10+2 (English Medium) examination conducted by CBSE or equivalent examination from a recognized board in any stream with an overall aggregate of min 50% or min 1110 marks in SAT or min 26 marks in IB.

BBA with specialization in Digital Marketing: Apply with 10+2 (English Medium) examination conducted by CBSE or equivalent examination from a recognized board in any stream with an overall aggregate of min 50% or min 1110 marks in SAT or min 26 marks in IB.

MBA: Minimum 50% in bachelor's degree (best of five) & in any one of the National Tests viz., CAT/XAT/CMAT/ATMA/MAT/GMAT (Sept 2018-May 2019)

MBA with specialization in Business Analytics: Bachelors' Degree with min eligibility criteria of 50% aggregate. Also, the candidate must appear in any one of the National Tests National Test CAT/CMAT/MAT/XAT/GMAT/NMAT.

PhD: Post-Graduate with 60% marks

Admission to MBA and other programmes were successfully conducted including the University's Management Entrance Test (NMET). The PhD (Management) programme is progressing well.

## Board of Studies

Board of Studies Meeting of School of Management and Liberal Studies was held on February 28, 2020 (Friday) at 09:30 am. The main objective of the meeting was to review and upgrade the course content of all the courses of SOM in order to meet the requirements of the industry as well as that of higher education. Courses of schemes of programs namely Masters of Business Administration (MBA), Bachelors of Psychology (B.A. Psychology-Hons.), Bachelors of Economics (B.A. Economics-Hons.), Bachelors of Business Administration (BBA), Bachelors of Commerce (B. Com-Hons.) were presented. After discussions and suggestions of the committee members the schemes were approved and it was decided that the amendments be made as per the suggestions of the Board and the University guidelines. The meeting was attended by external experts: Prof. Anil Anand Pathak, Associate Professor, MDI, Gurgaon and Ms. Pallavi Chopra, Senior Manager HR, ThoughtFocus, Gurgaon, Prof. PremVrat, Chief mentor, Pro-Chancellor, Prof. Swaran Ahuja, Dean Academics, Dean-SOM and the faculty members of SOM. It was proposed to make the students employable by introducing courses like Campus to Corporate and Basics of Excel in all the UG programmes. It was also suggested to introduce Electives in the first semester to make the UG programmes stronger. The objective is to ensure that the first year will be a foundation course covering components of liberal studies and UGC mandated courses. This pattern is already followed in the existing programs



viz. BBA, B. Com (H) and BA (Hons) Psychology, and BA (Hons) Economics.

Another meeting of the Board of Studies was held on 11 May 2020. Two new specializations were introduced in BBA i.e. BBA with specialization in Business Analytics and BBA with specialization in Digital Marketing; and One new specialization i.e. Business analytics in MBA program was introduced in the School of Management and Liberal Studies, starting with the Academic Year 2020-21 to diversify the portfolio of programs offered from SOM and SOL, to upgrade the programmes offered at the department in order to meet the requirements of the industry as well as that of higher education, and to prepare students to articulate multiple principles, concepts, and theoretical perspectives central to understanding complex issues relating to various sectors and in various domains.

## **Induction for New Joinees at SOM NCU**

Students come with diverse thoughts, backgrounds, and perceptions and hence it becomes important to help them adjust to the new environment and inculcate the ethos of the institution. To achieve this, the Welcome and Engagement activities were organized by the School of Management and Liberal Studies, The NorthCap University during 7th September-1st October 2020 virtually amid COVID19. This was done with a view to uplift the level of the entrants to an elevated stage, expose them to university life virtually, and promote holistic development. However, a formal introduction of various activities and systems in the University was provided to all the students through the platform of a two-hour online induction program conducted on 3 October 2020 for the newly admitted first-year students. The event was conducted on Microsoft teams as Live Event for our organization trusted participants only. During the session, the students were informed about Credit Based System, ERP, LMS, E-portfolio, Clubs and Societies, Incubation Centre, Tinkering lab., and the Thought Lab.

## **Induction for New Faculty at School of Management and Liberal Studies NCU**

Dr. Neha Agarwal (Psychology) joined the Department as Assistant Professor on 22 June 2020, Ms. MansiVinaik and Ms. Priyanka Munjal (Marketing) joined as Assistant Professor on 4 August 2020, Dr. NehaKumar (Finance) joined as Assistant Professor (Sr. Scale) on 24 August 2020 and Ms Minakshi Sehrawat (HR) joined as Assistant Professor on 15 October 2020. Due to social distancing norms, an Induction Program on Microsoft Teams app was conducted by HOD –SOM and LS wherein the task allocation and NCU performance norms were discussed with the new faculty i.e. Dr.Neha Kumar, Ms. MansiVinaik, Dr. Priyanka Munjal and Ms. Minakshi Sehrawat. Other details regarding the functioning of the School were also shared with them.

## **Research Orientation**

Four members of the faculty are pursuing PhD. Twenty-three scholars are currently pursuing PhD in the areas of Finance, Human Resource Management, Retail Marketing, Marketing, Entrepreneurship, Knowledge Management, Rural Marketing, Operations Management, Advertising and Entrepreneurship. One Research Fellow is receiving a contingency grant of Rs 25,000 per month, to facilitate her research.

## **Minor Projects/Internship/ Placements**

Minor project for first-year students doing Undergraduate program has been started in order to give them an understanding of basics of research and using elementary statistical tools on generic topics to convert their theoretical knowledge into project-based learning. Three hundred six students have presented their minor projects.

As it is mandatory for all the SOM students to have 3 credit internships during summer. Since due to outbreak of COVID-19, students were not able to do a Physical internship in most of the cases, so the department proposed the following options for the internships:

- Skill development training/ Course: 35 Skill development courses with minimum 6 weeks' duration have been proposed and identified in each domain i.e., Finance, HR, Marketing, Economics and Psychology, which can be undertaken by the students followed by the preparation of a report on the same. Students were allowed to enroll in any certified course they found interesting, after the approval from the supervisor.
- Online Internship: Students were also provided with the option of online internship and various links of online internships were also shared with students.

One hundred forty-three students have undergone the said internships during July-August 2020.

## Results

Discipline	Total Strength	Total Passed	First Class with Distinction	First Class	Second Class
BBA	140	132	11	100	21
BCom (H)	18	18	3	14	1
MBA	15	15	2	8	5
PhD	14	01	0	0	0

School	Programmes	Gold Medal	Silver Medal	Bronze Medal	Total
SOM	BBA	1	1	1	3
	BCom(Hons)	1	0	0	1
	cs	0	0	0	0
	BA (H) Psychology	0	0	0	0
	MBA	1	0	0	1

### Dean's List (December 2019)

<b>Under Graduate</b> <ol style="list-style-type: none"> <li>1. Rahul Jooshi</li> <li>2. Cheshta Nandal</li> <li>3. Priyanka Arora</li> <li>4. Shreya Sharma</li> <li>5. Parul Baansal</li> <li>6. Ritika Raajesh</li> <li>7. Himanshi Sharma</li> <li>8. Shreya Sinha</li> </ol>	<ol style="list-style-type: none"> <li>09. Vedant Vasishtha</li> <li>10. Aman Kumar</li> <li>11. Preeti Kuulkarni</li> <li>12. Gul Pulyaani</li> <li>13. Radhika Singla</li> <li>14. Shivam Chawla</li> </ol> <b>Post Graduate</b> <ol style="list-style-type: none"> <li>1. Rohit Bhola</li> </ol>
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### Dean's List (June 2020)

<b>Under Graduate</b> <ol style="list-style-type: none"> <li>1. Rahul Joshi</li> <li>2. Riya</li> <li>3. Cheshta Nandal</li> <li>4. Priyanka Arora</li> <li>5. Parul Bansal</li> <li>6. Shreya Sharma</li> <li>7. Alishaa Sahni</li> <li>8. Ritika Rajesh</li> <li>09. Himanshi Sharma</li> <li>10. Vedant Vasishtha</li> </ol>	<ol style="list-style-type: none"> <li>11. Shreya Sinha</li> <li>12. Aarzo Asri</li> <li>13. Aman Kumar</li> <li>14. Arjun Malik</li> <li>15. Prerna</li> <li>16. Preeti Kulkarni</li> <li>17. Shivam Chawla</li> <li>18. Gul Pulyani</li> <li>19. Radhika Singla</li> </ol> <b>Post Graduate</b> <ol style="list-style-type: none"> <li>1. Rohit Bhola</li> </ol>
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## Students' Achievements

- Shivam Chawla (17BBA158) got 92 percentile in CAT 2019.
- Navdeep Kodan (17BBA140) has a keen interest in contributing to society. So, he conceptualised and initiated the idea of setting up of an NGO 'Ekta Manch' in Gurugram. The same was also presented at the Scholarship Distribution Ceremony, NCU.
- Pooja Batra (18BCOM31) completed Bachelor's degree in Kathak from Prayag Sangeet Samiti. She was elected as the President for NSS and scored a band 8/9 in IELTS exam.
- Gaurav Khler, Aditi Bansal (from B.A. Honors Economics Semester III), along with Aayush Jain, Aashutosh Pandey, Aakshi Gera, Vishal Bhisht, Chetan Sehwari, Kunal Arya, Apoor Popli (from BBA Semester III), participated in Street Play Competition at IIT BHU, cultural fest of RAMJAS DELHI UNIVERSITY from 15th January - 21st January 2020 and represented Abhimanch Theatre Society of College
- Aashutosh Pandey (19BBA003) participated in inter-university street play at Amity Manesar.
- Aayush Jain (19BBA004) attended and contributed to 'Swachh Sarvekshan' organised by Teens Of God Foundation Programme organised by Municipal Corporation Gurgaon on 11th January 2020. He participated in Street Play Competition at Maharaja Surajmal Institute of Technology on 6th January 2020 and represented Abhimanch Theatre Society. He also took part in Nirbhaya Award 2020 held in CCA School on 2nd February 2020 organised by Teens of God Foundation and received Certificate of Appreciation. He visited slum adopted by Teens of God Foundation and distributed stationery to the children on 11th February. He has been a part of NSS Social Summit 2020 which was held at IIT Roorkee and went there for different events and workshops from 14th February - 17th February. Inner Wheel District 301 organised "Walk for Adoption Drive" on 17th February at Tau Devi Lal stadium organised by Teens of God Foundation and received Certificate of Appreciation.
- Anuj Chauhan (19BBA014) organised Awareness Drive for FUR & TAILS at Shri Ram Memorial School. He was the Event Manager for FUR & TAILS in Petfed 2019 held on 29th and 30th December 2019 in OKHLA NSIC GROUND, DELHI.

## Publications

Faculty members published 21 research papers in various National and International journals out of which nine are indexed in Scopus & Web of Science, and rest are indexed in Google Scholar. The detailed data of publication and research activities is maintained at the office of Dean – Research, Development and Industrial Liaison (RDIL). The detail of publications in glimpse is given as under:

Publications	Number
Journal Research Papers	21
Conference Proceedings	4
Book	0
Book Chapters	2
Total Publications	27

Publications	Number
International	24
National	3
Total	27

Publications	Number
Number of faculty completed PhD during the year	NIL
Number of research scholars	23
Number of faculties pursuing Ph.D.	4 (including new faculties)



## Conferences, Seminars and Workshops Organised

### International Conference

The School of Management and Liberal Studies of The NorthCap University, Gurugram organized an International Conference on Management "Winning in a VUCA World." The event was held on 4th October, 2019 from 09:00 am onwards in the University auditorium. The keynote addresses were delivered by Hon'ble Pro-Chancellor, Professor of Eminence and Chief Mentor, Prof. Prem Vrat; and Dean, School of Management, Prof. (Dr.) Hemant Trivedi. More than 500 faculty delegates, experts, practitioners and students were part of this International Conference. Dr. Swaranjeet Arora and Dr. Poonam Arora were Conference Conveners. The International conference was a fruitful amalgamation of empirical and conceptual research papers from academicians, professionals, consultants, practitioners, scholars and students.



### FDP on Research Methodology

School of Management and Liberal Studies organised a seven days FDP for all faculty members of The NorthCap University from 18 December to 24th December, 2019 on Research Methodology. The objective of the FDP was to provide an opportunity to faculty members and researchers to have a hands-on experience on statistical softwares and research methods such as SPSS and AMOS. Renowned experts from different institutes came to deliver the sessions. A total of 35 members participated in the program. It was a great learning experience for all. The event was coordinated by Dr. Swaranjeet Arora, Dr. Ruchi Nayyar, Dr. Preeti Chawla and Dr. Poonam Arora.

### External Participation by Faculty Members

Faculty members attended workshops, judged events, session chair in conferences etc. in various other reputed universities.

#### Invited as Resource Person

Dr. Swaranjeet Arora, Associate Professor at School of Management and Liberal Studies, The NorthCap University, Gurgaon was invited as Resource Person in UGC Approved Online Faculty Development Program on Research Methodology and Recent Trends in Law and Management with Covid-19 from 8 June–14 June, 2020 organized by Indore Institute of Law, Indore (M.P.). She deliberated on topic "Know how of UGC approved Journals for Publication" on June 10, 2020 through google meet platform.

Dr. Priyanka Banerji and Dr. Jahanvi Bansal, Faculty, School of Management and Liberal Studies, were invited to DAV Centenary Public School, Bahadurgarh for delivering Expert Lecture on "Career Prospects and Ladders" on February 01, 2020. They addressed

200+ students of class 10th and 12th and their respective parents. They discussed about the variety of opportunities available to the students. The event was highly praised by the school authorities.

Dr. Esha Jain was invited as a Session Chair in the Technical Session – III on 'Future HRM Drivers: Leadership, Workplace & Workforce' at International Conference on Industry 4.0: Global Transformation Changes in Business and Management organized by Jaipuria Institute of Management, Indirapuram, Ghaziabad on 15 February, 2020.

Dr Swaranjeet Arora, Associate Professor at School of Management and Liberal Studies, The NorthCap University, Gurgaon was invited as Session Chair in e-Conference on the theme "Surviving in Tough Time: Strategies for Success & Sustainability" held on June 06, 2020. This conference was organized by Prestige Institute of Management and Research, Indore in collaboration with Federal Polytechnic, Oko, Anambra State, Nigeria; London School of Business & Finance, Singapore; Poltava University of Economics and Trade, Ukraine, and Mississippi College, Mississippi University, USA.

Dr. Esha Jain has been invited as a Session Chairperson in 2020 International e-Conference on 'Innovation Infrastructure Development in India: Issues, Challenges and Way Forward' organized on 08 May 2020 on WebEx Platform by Innovation Society India in association with Amity College - Florida (USA), International Association of Research Scholars (IARS), Nirmal Integrated Consultancy (Team-NIC), WAIMS, and Business Press India.

Dr. Neha Kumar, Assistant Professor at School of Management and Liberal Studies, The NorthCap University, Gurugram was invited as resource person for the session on "Mendeley as Reference Manager" on September 13, 2020 in e-workshop on "Art of Writing Research paper" held from 12 September-14th September, 2020 organized by Researchsmiths.

### **Best Paper Awards**

Faculty members at School of Management and Liberal Studies have participated in various conferences organized by reputed organizations and following faculty members received best paper awards:

Dr Swaranjeet Arora, Associate Professor at School of Management and Liberal Studies, The NorthCap University, Gurgaon received Best Paper Presentation Award for the paper titled "Entrepreneurial Intention among Medical Students: A Comparative Study" at XIV International Conference on Rethinking Strategies for Leadership and Governance in Emerging Global Scenario organized by Prestige Institute of Management and Research, Indore sponsored by All India Council for Technical Education, New Delhi held from 10 January-11 January, 2020.

Dr Esha Jain, Assistant Professor at School of Management and Liberal Studies, The NorthCap University, Gurugram received best paper presentation award for the paper titled "An Empirical Study on Factors Affecting Perception of Indian Educators on Entrepreneurial Education" at International Conference on Industry 4.0: Global Transformation Changes in Business and Management organized by Jaipuria Institute of Management, Indirapuram, Ghaziabad on 15th February 2020.

Dr. Deergha Sharma, Assistant Professor at School of Management and Liberal Studies, The NorthCap University, Gurugram received Best Paper Presentation Award for the paper titled

"FINTECH: Boon or Bane for Indian Banking System" at International Conference on Industry 4.0: Global Transformation Changes in Business and Management organized by Jaipuria Institute of Management, Indirapuram, Ghaziabad on 15th February 2020.

## Sessions with Industry Experts

### EXPERT: Mr. Vineet Pawar

An expert session was organized by the School of Management and Liberal Studies, The NorthCap University Gurugram on "Career Prospects in the Financial Sector" on 12th February 2020. The speaker of the seminar was Mr. Vineet Pawar, Regional Head, North & East India, Chartered Institute of Management Accountants London, UK. The seminar started with a short video describing the innovations in the financial sector and how it is replacing past talents with the new one. He also focused on students' needs and passion and related them with their current education and future prospects in the financial sector. After the seminar, the speaker had a discussion with Dr. Hemant C. Trivedi, Dean, School of Management.



### EXPERT: Mr. Avtar Singh

An expert session was organized in the School of Management and Liberal Studies on 15th November 2019 on the topic 'Entrepreneurial Opportunities in Financial Sector'. The speaker of the session was Mr. Avtar Singh, CEO & Co-Founder, Intelliout Technologies Pvt. Ltd. and the target audience were final year students of undergraduate courses in SoM.

**The objective of the session was to make the students understand the following aspects-**

- Entrepreneurial opportunities in financial sector
- Financial stability of the Indian Financial System specifically banking sector
- Recent trends and upcoming challenges for the Indian banking system in the digital era.



The speaker made the session interactive and worthwhile by linking various aspects of banking with the present volatile financial system. The session was coordinated by Dr. Esha Jain and Dr. Deergha Sharma.



### EXPERT: CA Umesh Chandra Sharma

Guest lecture was also organized for BBA 1st year students on 'Emerging Trends in Accounting Practices' by CA Umesh Chandra Sharma on 7th February 2020. The objective of the lecture was to make the students understand the emerging practices in Corporate Accounting and relevance of Tally software in corporate sector.



### Visit by Students and Faculty from University of Massachusetts, Boston

The School of Management and Liberal Studies at NCU hosted students and faculty from University of Massachusetts, Boston on January 09, 2020. The group comprised of students from Europe and America. They collectively participated in a case workshop along with MBA and BBA students of School of Management, NCU where they discussed the selected case from various angles of management. At the end of the workshop, students from NCU and UMass Boston jointly presented the case. Visitors were delighted to interact with students and learn about the Indian culture. In today's dynamic world students need multinational and multicultural exposure so that they can learn and develop with global mindset. Such events enable students to collaborate and exchange ideas openly.



### Industrial visit to BOSCH Ltd, Jaipur.

The School of Management and Liberal Studies organized an industrial visit to Bosch Ltd., Jaipur for BBA and B.Com students on 5th and 6th March, 2020. The industrial visit created awareness among the students for setting up of new enterprise. The visit was co-ordinated by Dr Preeti Chawla and Ms Mahima Anand.



### Encouraging Budding Entrepreneurs- Exhibiting Innovative Ideas

The School of Management and Liberal Studies of the NorthCap University, Gurugram organized an exhibition on the theme, “Encouraging Budding Entrepreneurs- Exhibiting Innovative Ideas” in order to encourage entrepreneurial activities among students, and to showcase practical Implication of Business Canvas/Model. The event was held on 18th November, 2019 from 01:30 pm onwards in the University cafeteria. 98 students participated and displayed their innovative ideas in the form of food zone, gaming zone and other innovative services. Dr Preeti Chawla and Dr Swaranjeet Arora coordinated the event.

Winners of the event were:

1st prize - Nancy (For Creativity)

2nd prize- Rohan Chtuani (Gaming Zone)

3rd Prize- Amisha team (Food Stall)





## Industrial Visit to Panipat Thermal Power Station (PTPS)

The School of Management and Liberal Studies organized an industrial visit to Panipat Thermal Power Station (PTPS), Panipat, Haryana on 11th October, 2019 for the students of MBA. The visit was coordinated by Dr Poonam Arora and Ms Mahima Anand.



## Industry Visit to Hella India Lighting Ltd. (Derabassi, Chandigarh)

Enduring NCU's sturdy focus on facilitating industry interface, 37 students from BBA and B.Com accompanied by SOM and LS faculty members Dr. Priyanka Banerji and Dr. Jahanvi Bansal visited Hella India Lighting Ltd. (Derabassi, Chandigarh) on 1st November, 2019. The visit helped the students to get the opportunity to understand the practical working environment that ranged from safety, filtration, production, efficiency management, waste management and state-of-the-art facility of HELLA India Lighting Ltd.



## Industry Visit to Patanjali Ayurved Limited

An industrial visit was organized by School of Management and Liberal Studies from October 11-14, 2019 for students of B.Com and MBA. The objective of this visit was to give exposure to students regarding working of Patanjali Ayurved Limited so that they get hands on experience of industry while pursuing their academics. The visit was coordinated by Dr Swaranjeet Arora and Dr. Preeti Chawla.



## Student Activities Organized by the Department

### Talent Hunt- Infusion Beyond Conventions

School of Management and Liberal Studies organized Talent Hunt- Infusion Beyond Conventions from Jan 31, 2020 to Feb 01, 2020 for all schools throughout the university. It comprised of six events i.e. Poster Making competition, Scenario-based Analysis, Business Plan, Business Quiz, Case Study Competition and Exhibit Your Creativity. Students from various programs participated enthusiastically in the events. The quiz provided students an opportunity to learn about various leading brands and their strategies, knowledge about various personalities. Poster making competition was based on the themes "Forest Fires" and "Make in India". Students made beautiful



posters depicting these themes. Scenario based analysis had a number of real life problems, that managers have to deal with. Students had to provide solutions to those problems. Case study competition, had a detailed case on "Starbucks' Strategy", students had to think the possible solutions to the questions asked. In Creative Thinking, students had to let their creativity flow and come up with beautiful piece of work on the theme "burning Flora and Fauna". Students wrote beautiful poetry, articles and slogans. The last event was Business Plan, in which students presented their unique plans that they wanted to pursue like 'Greenity: An initiative to make environment clean'. The event was concluded with appreciation to all the participants and distribution of prizes to the winners.

### **Innovative Idea Exhibition**

Entrepreneurship Development Cell in collaboration with Institution Innovation Council - The NorthCap University (IIC-NCU) recognized by MHRD's Innovation Cell, Government of India organized an Innovative Idea Exhibition in which 56 groups of students have presented their innovative business ideas with the help of charts on March 6, 2020. Mr. Debasish Roy (Vice President Finance at Bertelsmann Marketing Services India Pvt Ltd, Group CFO at Arvato India & Director at Ramyam Intelligence Labs Pvt Ltd), Ms. Shweta Bhatnagar (Innovation Officer at MHRD's Innovation Cell, Govt. of India) and Prof. Hemant Trivedi (Dean, School of Management, NCU) were the judges of the event. The winning business ideas were Tri-lium Safety, Helpmate, and Indian Handicrafts as first, second, and third respectively. The business idea of Tri-lium Safety was presented by Priyanka Arora and Parul Bansal; the business idea of Helpmate was presented by Manan Sachdeva and Abhinav Sahu, and business idea of Indian Handicrafts was presented by Ritika Thakur.

### **Quiz Competition**

The Extracurricular Club, School of Management and Liberal Studies organized an online quiz competition on 10th August, 2020. The quiz was a general management quiz, consisting of questions on various entrepreneurs, founders, principles etc. Students from various universities and schools participated in the competition. The winner of the quiz was Mr. Uddeshya from SGT University.

### **Business Case Analysis Competition**

To make students use their cognitive ability and reasoning power, Business Case Analysis Competition was organized by the HrDiya, HR club of School of Management on 26th September, 2020. It was an inter-college event in which students from various colleges participated. Students were given a real-life case study to solve. The objective of the event was to infuse a strong dose of real-life experiences into curriculum and to highlight the value of taking a holistic and integrated approach in making an organization sustainable with effective use of human resources.

### **Webinar on Indian Accounting Standards**

A webinar on Indian accounting standards - roadmap for implementations was organized by VITTUDYOG, the finance club on 30<sup>th</sup> August 2020. More than 96 Students attended and got the certificates. Another event QUIZANIA (quiz on personal finance) was organised on 20th September, 2020. The event attracted more than 120 students from different Schools of the university. The quiz theme was "How much do you know about Personal Finance?" The winners were: 1st Prize- Alisha Sahani, 2nd Prize- Aakansha Priya, 3rd Prize- Jagrit Khurana.

## **We Unite, We Fight: NCUians against COVID-19**

The pandemic is a collective crisis, and saving lives and reviving livelihoods are the priorities of the society. As mentioned by our Prime Minister Narendra Modi that "Every person is a soldier in this battle and also leading the battle, so the warriors of NCU voluntarily took the responsibility to spread this message. Today, when the whole world is suffering with coronavirus crisis, this is a small initiative by the young first year students to eradicate this menace of COVID-19 by joining hands and fighting against it. Highlighting the slogan "Unity is Strength", unifies all the people across the world, irrespective of the culture or color, in this fight against Coronavirus. Presented here is a small contribution by NCUians against COVID-19.



## School of Law

*The vision of the School of Law is to be ranked amongst some of the best law schools in India and the most preferred Private University destination for law aspirants. The School of Law at The NorthCap University provides the highest quality professional law courses in Gurugram to equip the students for a transnational practice and to face the challenges posed by the internationalization of the legal profession.*



### Programmes & Admission Criteria

The School of Law offers three programmes viz., the five-year integrated BBA-LLB (Hons.) at the undergraduate level, one-year LL.M with specialization in Human Rights, Corporate Law and Intellectual Property Rights at the postgraduate level, and a full-time/part time PhD programme at the Doctoral level to pursue research in contemporary legal areas like Environmental Laws, IPR, Civil Laws, Criminal Laws, Corporate Laws, Labour Laws, Constitutional Laws etc.

#### Admission Criteria:

- BBA LL.B (H) - CLAT/LSAT/AILET/NCU-LET with 50% marks in 10+ aggregate and 50% marks in English
- LL.M – LL.B Degree
- Ph.d – LL.M Degree

Throughout the year, faculty members were involved in various outreach activities to deliver lectures, judge Moot Court competitions, attending Conferences, Faculty Development Programmes and conduct workshops at reputed Law universities. They also up-skilled and expanded their capabilities to remain contemporary and relevant.

Three new faculty have joined at the School of Law – Mr. Vikram Lathwal, Ms. Aashia Jindal and Dr. Tavleen Kaur.

### Research Orientation

Four members of the faculty are pursuing research. Dr Unanza Gulzar, Assistant Professor and Pallavi Bajpai Assistant Professor (Sr. Scale) were conferred PhD in Law by Jamia Millia Islamia, Delhi and Panjab University respectively.

6 Research Scholars are pursuing PhD in SOL in the field of Human Rights, Constitutional Law, Intellectual Property Rights, Civil Laws, Foster law, Science and Technology Law, Environmental Law, Corporate Law, Administrative Law, Criminal Law and Business Law. This year in the month of September 2020, NCU Law Review Vol.1, Issue 2 (September, 2018) has been published in which both National and International authors contributed.



## STUDENTS' ACHIEVEMENTS AT SCHOOL OF LAW:

1. Samiksha Shandilya, a student of 4th year BBA.LLB had secured 3rd position in "All India Cyberspace Quiz Competition" held on 12th June 2020, organized by Cybertalk India: Netizens Choice.
2. Amardeep Chahal was awarded "Best Paper Presenter" in National Conference on Corporate Laws organised by Ansal University, 2020.
3. Amardeep Chahal & Mayank Dahiya, were runners- up in 3rd National Client Counselling Competition 2019 at Annual Inter – University Techno-cultural festival 'Lamhe'.
4. Arpil Sharma (4th year student) secured First Position at National Social Summit 2020
5. Anshul Rana (First year BBA.LLB) won 2nd prize in OSL 1st National Article Writing Competition, 2020.
6. Amardeep Chahal & Mayank Dahiya, were runners- up in National Client Consultation Competition (L'ÉGALITÉ), 2019 organised by Bennett University.
7. Mayank Dahiya was awarded "Best Research Paper" in National conference on Corporate Laws organised by Ansal University, 2020.
8. Karan Kataria, 3rd year Law student attended "Global Goals Summit" in Kuala Lumpur Malaysia from January 23-25 2020 and gave a presentation in the International Conference on "Access to Education: Sustainable Development Goal-4" which focused on improving the quality of education for the poor and marginalized section of our society and efforts of Indian government and other non-governmental organizations. He was also awarded as Global Action Ambassador 2020 for United Nations Sustainable Development Goals. More than 150 Delegates across the globe represented their country on this international forum.
9. School of Law participated in 1st edition of Mediation Competition held at IMS Unison University; Dehradun on 28th & 29th January, 2020. The team composition was one Mediator and one Advocate. Mr. Saubhagya Chauriha participated as a Mediator and Mr. Pratyush Arora participated as an Advocate. The problem revolved around the provisions of Indian Penal Code, 1860 and Indian Contract Act, 1872.
10. Kashish Rehan (16LLB035), participated in an International Conference on Philosophy of Guru Nanak Dev Ji organized by Bar Council of Haryana and Punjab at Panjab University, Chandigarh from 31st -1st February 2020. Her research paper was titled "Women Empowerment, Gender Justice and Role of Law". The paper was presented before Chief Justice of Haryana and Punjab High Court.



## CONFERENCES, SEMINARS & WORKSHOPS

1. Legal Aid Clinic, School of Law, organized Cyber Crime Awareness Week from 3rd -6th September, 2019. Seminars were conducted, wherein, Dr. Aprajita Bhatt (Assistant Professor, National Law University, Delhi) and Dr. Sheetal Vohra, a leading IPR, Media, Technology and Cyber Entertainment Advocate were the guest speakers.
3. Mr. Kapil Ajmani, Manager-Academic Sales along with his team Mohit Singh, Trainer– Learning Centre of SCC ONLINE conducted an Orientation cum Training Workshop for the teachers and the students on 6th September, 2019.
4. Legal Aid Society, School of Law, The NorthCap University, Gurugram organized a workshop on Cyber Security in association with The District Legal Services Authority, Gurugram, Haryana, on 22nd January 2020. The event was inaugurated by the Chief Guest Sh. Pardeep Choudhry, Chief Judicial Magistrate cum Secretary District Legal Services Authority, Gurugram, Haryana.
5. School of Law organized webinar on the theme, Mooting: A Honing Skill on 24th April, 2020.
6. School of Law in association with Latest Laws organized series of webinars on different themes. The topic of the Webinar-I was "What avails our Criminal Justice Delivery System?" held on 13th May, 2020. The speaker of the webinar was Justice S.N Dhingra (Retd.) High Court of Delhi. The Topic of the webinar II was "Essence of International Commercial Arbitration and its Challenges" held on 15th May, 2020. The Speakers of the webinar were Prof. Loukas Mistelis (Prof and Former Director of the School of International Arbitration, Queen Mary University) and Mr. Sarosh Zaiwalla, (Senior Partners, Zaiwalla and co. Solicitors London). The topic of the webinar III was "Covid 19, Health and Safety of Lawyers: Lockdown and Beyond" held on May 10, 2020 and the speaker was Justice A.K Sikri (Retd.), Supreme Court of India. The webinars were conducted via Zoom Platform.

7. School of Law organized a webinar on Career Options in Law on 14 June 2020.
8. School of Law organized a workshop on Career Building in Law on 15 June 2020.
9. School of Law in association with the District Legal Aid Services, Gurugram conducted a media literacy workshop known as Factshala by Prof. Umesh Arya on 1 July 2020.
10. School of Law organized a webinar on “Socio-Legal Aspects of Domestic Violence” on 15 July, 2020 in association with District Legal Services Authority. Advocate Nutan Yadav, Empanelled Advocate, DLSA and Ms. Ankhee Gupta, Psychologist and Counsellor were the speakers for the event.
11. School of law organised a webinar on Rule of Law and Criminal Justice System on 18 July 2020. The speaker of the webinar was Dr. Asad Malik, Associate Professor, Faculty of Law, Jamia Millia Islamia.
12. A two-day National Workshop on “Criminal Justice Administration” was organized by the School of Law on August 28 & 29, 2020. The event went live on YouTube and has approximately 1000 views from across the Country. The eminent speakers for the workshop were Prof.(Dr.) Manjula Batra, Professor, The NorthCap University, Formerly Dean, Jamia Milia Islamia; Mr. Vikas Pahwa, Senior Advocate, Supreme Court of India; Mr. Kapil Sankhla, Advocate & Managing Partner, Kapil Sankhla & Associates and Ms. Geeta Luthra, Senior Advocate, Supreme Court of India.
13. The Centre for Intellectual Property Rights, Research, Advocacy and Training (CIPRART), School of Law, the NorthCap University in association with IP India office organized one day National Conference on “Varying Dimensions of IPR” held on 5th September, 2020. The Chief Guest of the event was Justice Manmohan Singh, Chairman Intellectual Property Appellate Board, Guest of Honor was Mr. GR, Raghavendra, Joint Secretary, Ministry of Law and Justice and Prof. (Dr.) HG Hegde, chairperson, Centre for Legal studies, Jawaharlal Nehru University.
14. The CIPRART, School of Law, The NorthCap University organized a webinar on Issues and Challenges on Bio-Piracy in 21st Century: National and International Perspective on 12th October, 2020.
15. School of Law, The NorthCap University, Gurugram organised workshop on “Techniques of Alternative Dispute Resolution and Importance of Arbitration and Mediation in developing a Career”. The speaker of the workshop was Mr. Sameer Shah, Chairman-India Branch at international Dispute Resolution and Risk Management institute.

### **National Voters’ day**

School of Law, celebrated National Voters’ Day on 24th January, 2020. Voters’ Day is celebrated in India on 25th January since the year 2011 to mark the foundation day of Election Commission of India (ECI).



## NATIONAL CLIENT CONSULTATION COMPETITION, 2020

The School of Law (SOL) organised its 6th Edition of NCU Law School National Client Consultation Competition held on 9-10 October, 2020. It is one of the finest competitions which was held on judging the advocacy skills of a lawyer. The event was inaugurated by Hon'ble Chief Guest Hon'ble Mr. Justice Darshan Singh( Retd. Punjab and Haryana High Court), presently Chairperson Haryana Real Estate Appellate Tribunal. The Competition witnessed participation by 22 teams from Central and State Universities, National and Private Law Schools from all across the country. Symbiosis, Hyderabad emerged as the winner and the runners-up were Campus Law Centre-II, Delhi University. The winning team was provided with a cash prize of 10,000 Rupees, and 1-year free subscription from SCC Online. Also, a cash prize of 5,000 Rupees, to runners-up and 6-months free subscription from SCC Online. Besides this, all the participants were given participation certificate.



## LEGAL AID SOCIETY

- The Legal Aid Society, The NorthCap University has received an appreciation letter from District Legal Services Authority, Gurugram for commendable service in the academic year 2019-2020.

## Events Organised during 2019-2020

- Organized three-Day Cybercrime Awareness Campaign from September 3-6, 2019.
- Conducted a survey related to governance issues at Sukhrali village, Gurugram on September 7, 2019.
- Organised a workshop on Cybersecurity Awareness in association with District Legal Services Authority on January 22, 2020
- Participated in a Plea Bargaining workshop at Bhondsi Jail in association with DLSA, Gurugram on February 5, 2020.
- Participated in the Womens' Day celebration at Bhondsi Jail and performed a Nukkad Natak on March 4, 2020.
- Celebrated Womens' Day with Police personnel at Women's Police Station sector 56, Gurugram on March 4, 2020.
- Workshop on Womens' Right at Kamlini NGO on March 5, 2020.
- Legal Aid Society in association with Aadi Shakti Shiksha Foundation distributed ration kits to migrant labourers during March –April, 2020.
- Conducted a Health Camp and distributed masks amongst the migrants on May 17, 2020.





## Internship/Placement/Higher Studies

Despite stiff competition in the market, with the efforts of SPA and SOL's Recruitment Coordination Committee, the graduating batch of Law students were placed at reputed organizations such as Juris Corp, Tuli & Co., Chadha & Co, Chadha & Chadha Associates, Abhijeet Gupta & Associates, Grey & White Partners, V.P. Mangla & Associates, Big Mart Retail Pvt. Ltd., Gorkela & Associates, Mehta & Mehta Associates, etc.

Some of our students have qualified CLAT and are pursuing higher studies/Masters from reputed National Law universities and also reputed Private University such as O.P. Jindal Global University and one of our LLM student Himani Ahlawat cleared UGC NET Examination.

The School of Law is having a formal arrangement with DLSA, Gurugram, JJ Board, Delhi, several NGOs across NCR and also the Prosecutors' Offices in Gurgaon and New Delhi for providing internships to the law students apart from reputed law firms which are mentioned above.

## Induction Programme

School of Law organised Orientation program for newly admitted students of BBA LL.B for one week from 7th September, 2020 to 11 September, 2020. The students were provided with a basic introduction of Law by conducting multiple guest lectures on various topics such as criminal law, constitutional law, family law, etc. During the program, students also showcased their talent by exhibiting their skills of dancing, singing, photography, etc

## Constitution Day

71st Constitution Day was celebrated by School of Law, The NorthCap University, Gurugram on 26th November 2020. Students were invited from schools, colleges and universities from all over the country to participate in various competitions like quiz, poster-making, debate, essay-writing and extempore speech. The event witnessed a total of 147 participants from Kolkata, Chandigarh, Chennai, Dehradun, Delhi NCR, West Bengal and all across the country. The virtual celebration took place on the Microsoft Teams Live platform. The winners of the event were awarded with a cash prize of ₹1000 for holding the first position and ₹500 for the second position. The celebration of this auspicious day began with the address by our Vice Chancellor Prof. H.B. Raghavendra, followed by the address of our Chief Guest Hon'ble Mr. Justice Vimlesh Kumar Shukla (Sr. Judge, Alld.). His address on the 'Fundamental Rights and Duties' was enlightening for the audience.

## PUBLICATIONS

Research Papers in Journals: 06

Book Chapters: 04

Research Paper Presentation by faculty: 07

## JOURNALS

1. Ritu Dingra\* & Dr. Balwinder Singh, School of Law, "Remote Monitoring and Sustainable forest Management: Techno Legal Aspects", Indian Bar Review, 2019, Vol.2, issue 46, page no 241-249, PCN SOL2019J010
2. Ms. Hansikaa Chauhan\* & Dr. Shabana Shabnam, School of Law "Regulatory Framework for Foreign Direct Investment in the Indian Telecom Sector and Its Impact on the Telecom Economy Dehradun Law Review", A Journal of Law College Dehradun, Uttaranchal University 2018, Vol. 10, Issue1, page no 63-78. PCN SOL2019J011.
3. Unanza Gulzar, SOL, "Vanishing Themes of Indian Victim Compensation Law: An Exploration", Journal of Victimology and Victim Justice, International 2019, Volume2, Issue 2, page no 1-10 PCN: SOL2020J001
4. Unanza Gulzar, SOL, "Catastrophe of Protection of Accused under Criminal Justice Administration in India", Lex Jura Law Journal, National journal, 2019 page no: 54-70, PCN: SOL2020J002
5. Unanza Gulzar, SOL, "Voids and Abysses in Information Technology Act, 2000 vis-à-vis E-commerce: Defies Ahead", International Journal Of Research in Management and Social Science, 2018, Volume 6, Issue 1, page no. 127-133, PCN: SOL2020J003
6. Himangshu Rathee, SOL, "Mobile Medi-Care for the Elderly in India: A Critical Review, in the journal, HelpAgeIndia Research & Development Journal, 2019, Page no 39-46. PCN: SOL2020J004.

## Results

Discipline	Total Strength	Total Passed	First Class with Distinction	First Class	Second Class
<b>BBA LLB (Hons) Final Year</b>	75	71	12	47	15
<b>LLM</b>	18	19	<b>6</b>	<b>5</b>	<b>1</b>

Programmes	Gold Medal	Silver Medal	Bronze Medal	Total
BBA LLB (Hons)	1	1	1	3
LLM (1Yr)	1	-	-	1

## Deans' List 2019

<b>Under Graduate</b> 1. Kumari Tanu 2. Anshu Yadav 3. Ishita Ahuja 4. Priyanshi Sharda	5. Ayush Rai 6. Divya Singhal 7. Karan 8. Ojaswi Kulshrestha 9. Mukul Sharma	<b>Post Graduate</b> 1. Aastha Jain
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## Publications

Faculty members published book chapters and papers in national and international journals and made presentations in conferences.

Research Papers in UGC approved journals : 23

Book Chapters : 03

Research Paper presentation by faculty : 14

(Details at the end of the Report)

## Induction Programme

Induction Programme was organized for 1st Year students from 22 July to 26 July 2019 in which various events were organized for the freshers at SOL such as visit to the Thought Lab and Tinkering Lab, lectures on research writing, interaction with Alumni, Moot and Legal Aid sessions, Clubs and Societies Fest, yoga and sports, cultural activities and recreational activities such as, talent hunt, documentary screening, industrial visit, mentoring sessions, Basic English Proficiency classes, Basic Computers knowhow classes, lecture on General Proficiency, etc. Further, the newly admitted students were asked to plant trees in their vicinity and prepare a report for the same. The initiative is called PARYAVARAN PRAHARI (Plantation Drive).

## BOOK CHAPTERS

1. Unanza Gulzar, SOL, Chapter 6, A Critical Appraisal of Crime over Social Networking Sites in the Context of India: Social Networking Sites", in the book titled "New Media and Visual Communication in Social Networks" IGI GLOBAL International 2020, page no. 93-112, ISBN: 97817998104452, DOI: 10.4018/978-1-7998-0050-7. PCN: SOL2020BC001
2. Unanza Gulzar SOL, Chapter 5 "Problems faced by E-commerce Transactions with Special Emphasis on Digital Economy in Indian and European Union" in the book titled Impact of Mobile Services on Business Development and E-commerce, IGI GLOBAL, International 2020 ISBN: 978179980050789-107, DOI: 9.7818E+1210.4018/978-1-7998-0050-7. PCN: SOL2020BC002
3. Unanza Gulzar, SOL, Chapter 1 "Critical Evaluation of Law on Traditional Knowledge" in the book titled Intellectual Property Rights and Protection of Traditional Knowledge, IGI Global International 2020, Page no 1 to 27, ISBN: 9781799818366, DOI: 10.4018/978-1-7998-1835-9.ch001, PCN: SOL2020BC003
4. Unanza Gulzar, SOL, Chapter 85, in the book titled Global A Precarious Assessment of internet Privacy in India with Special Reference to COVID-19" in the book Global Economic Order in the Past Covid-19 Era: Challenges, Opportunities and Strategies, by Prof. Ravi Kumar Gupta, ISBN 978-81-942547-3-7. PCN: SOL2020BC004.

## Conference Presentations:

1. Unanza Gulzar, SOL "Assessment of Alternative Dispute Resolution in Resolving Environmental Hitches Arbitration and Conciliation: Challenges and New Horizons", International conference organized by Lucknow University, on 20th October 2019. PCN SOL2020C001
2. Unanza Gulzar, SOL "An Evaluation of Prominence of textile Industries Under GI in India" in the national conference on Role of Intellectual Property Rights in a Global Economy: Challenges and Issues organized by Rajiv Gandhi National University of Law held on 11th October 2019. PCN SOL2020C002
3. Unanza Gulzar, SOL "Catastrophe of Protection of Accused under Criminal Justice Administration in India" in the national conference organized on Criminal justice Administration in India: Emerging Dimensions by Aiding Hands Foundation held on 7th October 2019. PCN SOL2020C003
4. Unanza Gulzar, "SOL is Payback of ADR Structure under Criminal Justice System in India Alternative Dispute Resolution: emerging Issues" in the National conference organised by Sharda University held on 11th October 2019. PCN SOL2020C004
5. Pallavi Bajpai, SOL, Corporate Social innovation strategies during Covid-19: facilitating on Affirmative Impact on Society as well as Business in the Webinar on Mental Health, GGSIPU Online, 2020, PCN: SOL2020C005
6. Unanza Gulzar, SOL, presented paper on "A Precarious Assessment of Internet Privacy in India with special reference to COVID-19", in the conference on Global Economic Order in the Post-COVID-19 Era: Challenges, Opportunities and Strategies organized by MAIMS, held on July 25, 2020 PCN: SOL2020C007.
7. Unanza Gulzar, SOL, presented paper on "The Effect of Board Monitoring Role on the Integration of the Corporate Social Responsibility into Corporate Governance: A Qualitative Investigation" in the national conference on Latest Trends in Corporate Laws and Governance Regime, organized by Ansal University on 6th and 7th February, 2020. PCN: SOL2020C007



## School of Professional Attachment (SPA)

The School of Professional Attachment (SPA) ensures regular interface and dialogue with the industry for professional enrichment and better job opportunities of students. SPA is engaged in building and enriching the potential of each student and helps them plan their career ahead. SPA nurtures students from induction to placement and acts as a bridge between a student and his / her first job. SPA strives for the holistic development of students making them industry ready for a smooth transition from campus-to-corporate.

SPA enhances the employability of students through improved industry internship attachment often culminating in placements, increased students' ownership, career counselling and gap analysis, obtaining higher and better job placements with a wider industry reach and obtaining industry feedback for improving the curriculum. SPA equips students with the right kind of skills and attitude so that they can become more effective, efficient and productive in their employer's organization.

NCU facilitates evaluation of students' employment readiness and gap analysis by outsourcing it to the company 'Aon CoCubes' that does third party assessments for BTech graduating students, on behalf of hiring companies. In addition to providing student-centric deliverables like assessment scores and improvement areas, it also helps to generate employment leads for the students with its empanelled companies.



NCU has been associated with Youth4Works for the assessment of students starting from 1st year till the final year to improve the proficiency in the following three broad areas.

- Communication Skills
- Aptitude
- Domain Area

The NorthCap University, Gurugram is in continuous pursuit of all-round excellence in Technical, Management & Law education by narrowing the gap between academia and industry.

## Glimpse of Campus Placements



*Encore Capital Group*



*FIS Global*



*JLL*



*Nagarro*



*Lutron Electricals*



*NCR Corporation*



*Skyborne Aviation*



*GenX Info Technologies*

Job placements are arranged by inviting companies for an on-campus selection process as well as nominating students to prospective employers for their in-house selection process. Focus is on widening industry reach and getting better salary packages for our students. Efforts are made to reach out to a large number of companies across all verticals and invite them to the campus for carrying out their placement process. Currently there are 180+ companies recruiting students from the University.

Relentless efforts of SPA resulted in over 90% placements of eligible students from all the three Schools – School of Engineering & Technology, School of Management and School of Law, Class of 2020. Placements were achieved in premier companies like Deloitte, United Health Group-Optum, Ernst & Young, IBM, Fidelity, Sapient, Newgen, Real Time Data Services, Protiviti, NCR Corp, Blue Star, Nagarro, TCS, HSBC, JLL, Daikin, McDermott, Siemens, and Ameriprise Financials etc. A positive feedback of the previously employed students from the employer organisations resulted in these companies continuing to return for campus placements with more inclusions each year.

As regards internships, Mudit Bajaj, Nikhil Taneja, Shreyansh Mamgain and Shruti Jain (Class of 2020) were selected as interns at Fidelity International and later all four got the pre placement offer with the salary package of Rs 5.5 LPA.

Besides placements, a number of our students have gone in for higher studies in India, including IITs, and abroad to University of Reading, UK; University of Limerick, Ireland; University of Florida, New York University, University of California, Arizona State University USA; University of Windsor, Canada; University of Melbourne, Australia amongst others.

S.No	CAMPUS 2019	CSE	EECE	ME	CV	B.Tech ( Total )	MBA	LAW
1	STRENGTH	400	66	68	29	563	14	62
2	NOT ELIGIBLE	55	17	21	7	100	7	8
3	NOT APPLYING DUE TO FAMILY BUSINESS OR HIGHER STUDIES	72	11	13	7	103	6	3
4	ELIGIBLE & INTERESTED FOR PLACEMENT	273	38	34	15	360	1	51
5	NUMBER OF STUDENTS PLACED	268	34	30	11	343	1	50
6	% PLACEMENTS	99%	90%	89%	74%	96%	100%	99%



## Some Leading Recruiters

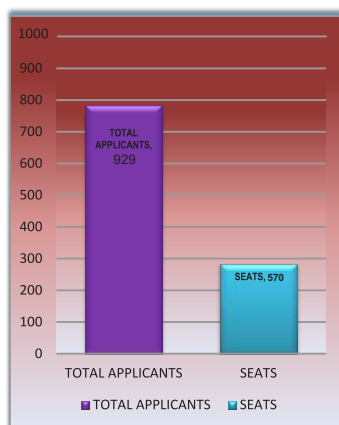


## Students' Strength and Intake 2020

S No	School	Admitted in 2021	Students Strength other than Fresh Intake	Total Strength
1	School of Engineering & Technology	345	1046	1391
2	School of Management	159	478	637
3	School of Law	66	339	405
4	PhD	28	155	183
	<b>Total</b>	<b>598</b>	<b>2018</b>	<b>2616</b>

### BTech Admission Profile

Ratio of applicant to intake seats indicates a healthy demand trend at THE NORTHCAP UNIVERSITY.



Top marks in JEE Main & 10+2 establish continued high merit levels at the intake stage for BTech

SL. NO.	BRANCH	Top Marks	
		%age of Best of Jan/Apr JEE 2019	10+2
1	CSE	70.85	96.00%
2	MECH	89.2	90.00%
3	ECE	70.98	83.40%
4	CV	55.76	73.8%



## Conferences, Workshops and Training Programmes

S.No.	Department	Conference	Dates
1	SOL	Workshop on "Cyber Security" in association with The District Legal Services Authority, Gurugram, Haryana	22 January 2020.
2	SOL	Three day Online National Level Faculty Development programme on "Coping with the Transition in Legal Education during Covid – 19: The Way Forward".	30 May - 01 June 2020
3	SOL	Online Workshop on Career Building in Law	15 June 2020
4	SOL	Two-Day National Workshop on Criminal Justice Administration	28-29 August 2020
5	CLIPART	National Conference on "Varying Dimensions of IPR" in association with IP India Office	5 September 2020
6	SOM	Data Analysis for Research in Social Sciences	17 June 2020
7	SOM	Art of Writing a Research Paper	25 May 2020
8	SOM	Structural Equation Modelling in Management & Social Science using AMOS & "R	11 May 2020
9	SOM	Data Analysis for Research in Social Sciences	17 June 2020
10	SOM	New Digitally Enhanced Education for Covid 19 Digital Era of Education	20 July 2020
11	SOM	New Digitally Enhanced Education for Covid 19 Digital Era of Education	20 July 2020
12	SOM	New Digitally Enhanced Education for Covid 19 Digital Era of Education	20 July 2020
13	SOM	Global Economy in Covid-19: Opportunities and Challenges	11 May 2020
14	SOM	Data Analysis using MS Excel	27 April 2020
15	SOM	14th International Conference on Rethinking Strategies for Leadership & Governance in Emerging Global Scenario	29 April 2020
16	SOM	JAIPURIA INSTITUTE OF MANAGEMENT	15 February 2020
17	SOM	Jaipuria Institute of Management, Ghaziabad	17 February 2020
18	SOM	Jaipuria Institute of Management, Ghaziabad	17 February 2020
19	SOM	National Institute of Advanced Studies (NIAS)	8 June 2020
20	APS	Teaching and Learning for Accreditation in Technical Education	27 April 2020
21	APS	Modeling and Simulation using MATLAB	18 May 2020
22	APS	NBA Accreditation of Engineering Programs	11 May-2020
23	APS	Data Sciences	9 May 2020
24	APS	Data Sciences	25 May 2020
25	CSE	Block Chain	7 - 11 December 2020
26	CSE	Artificial Intelligence, Machine Learning	1 January - 1 March 2020
27	CSE	Awareness on Invention & patent filing	15 February 2020



## Conferences, Workshops and Training Programmes

S.No.	Department	Conference	Dates
28	CSE	Introduction to ML by Coding Blocks	12 February 2020
29	CSE	Training on Big Data, Advance Machine Learning	1 April -1July 2020
30	CSE	Online sessions on Innovation, IPR, Entrepreneurship, and Start-ups	28 April 2020
31	CSE	Training on Artificial Intelligence, Machine Learning	1 January - 1 March 2020
32	CSE	Big Data, Advance Machine Learning	1 April - 1July 2020
33	CSE	Data Science Specialisation	1 December 2020
34	CSE	Malware Analysis Fundamentals	8 April - 20 April 2020
35	CSE	Intro to Malware Analysis and Reverse Engineering	4 May - 6 June 2020
36	CSE	Google Cloud Platform Big Data and Machine Learning Fundamentals	1 April 2020
37	CSE	RECENT ADVANCES IN COMPUTER SCIENCE AND ALLIED DOMAINS	8 June 2020
38	CSE	FDP on R Programming	16 June -21 June 2020
39	CSE	Data Science Specialisation	1 December 2020
40	CSE	Leadership Talk	30 May 2020
41	CSE	Data Science Specialisation	1 December 2020
42	CSE	Flutter	13 July 2020
43	CSE	Artificial Intelligence, Machine Learning	1 January - 1March 2020
44	CSE	Big Data, Advance Machine Learning	1 April - 1July 2020
45	CSE	International Symposium on Data Science	14 July 2020
46	CSE	BlockChain and Its Applications	20 June 2020
47	CSE	Soft Computing	9 February - 9 June 2020
48	CSE	Medical Image Analysis Using Deep Learning	28 - 30 September 2020
49	CSE	Network Security	14 July 2020
50	CSE	Trends and applications in Machine Learning and Deep Learning	4 - 5 September 2020
51	CSE	Angular	1 May 2020
52	CSE	Flutter	13 July 2020
53	CSE	2D Game Development in Unity.	10 June - 14 July 2020
54	CSE	Web Security	10 July 2020
56	CSE	Network Security	14 July 2020
57	CSE	Artificial Intelligence, Machine Learning	1 January - 1March 2020
58	CSE	WhatsApp Outcome Based Education Faculty Development Program	24 March - 14 April 2020
59	CSE	Online sessions on Innovation, IPR, Entrepreneurship, and Start-ups	28 April 2020
60	CSE	Big Data, Advance Machine Learning	1 April - 1July 2020
61	CSE	International e-Conference on Post COVID-19 Start-up Ecosystem and Entrepreneurship Opportunities	12 May 2020

## Conferences, Workshops and Training Programmes

S.No.	Department	Conference	Dates
62	SOL	IEEE Chandigarh Sub-section Congress 2020	7 June 2020
63	CSE	RBCDSAI's International Summit on Data Science and AI	18 - 20 June 2020
64	CSE	Artificial Intelligence, Machine Learning	1 January - 1 March 2020
65	CSE	WhatsApp Outcome Based Education Faculty Development Program	24 March - 14 April 2020
66	CSE	Big Data, Advance Machine Learning	1 April - 1 July 2020
67	CSE	RBCDSAI's International Summit on Data Science and AI	18 - 20 June 2020
68	CSE	IEEE Chandigarh Sub-section Congress 2020	7 June 2020
69	CSE	WhatsApp Outcome Based Education Faculty Development Program	24 March - 14 April 2020
70	CSE	RBCDSAI's International Summit on Data Science and AI	18 June - 20 June 2020
71	CSE	Middleware Framework & ORM	5 May - 1 July 2020
72	CSE	Green Technology	1 July 2020
73	CSE	Block Chain	7 - 11 December 2020
74	CSE	AICTE Training And Learning (ATAL) Academy Online FDP on "Blockchain"	31 August 2020
75	CSE	AICTE Training And Learning (ATAL) Academy Online FDP on "Blockchain"	31 August 2020
76	CSE	AICTE Training And Learning (ATAL) Academy Online FDP on "Blockchain"	19-23 October 2020
77	CSE	Block Chain	7 - 11 December 2020
78	CSE	Block Chain	20 - 24 December 2020
79	CSE	Green Technology	1 July 2020
80	CSE	Block Chain	7 - 11 December 2020
81	CSE	TEQIP-III sponsored FDP on Green Technology	18 July 2020
82	CSE	National Level FDP on Ambient Technologies: State-of-Art, Challenges, and Future Directions	27 July 2020
83	CSE	Malware Analysis Fundamentals	1 May 2020
84	CSE	Research Paper writing using LaTeX	10 - 15 August 2020
85	CSE	Future Proof Your Teaching Skills	10 June - 16 October 2020
86	ME	Alumni Interactive session on Supply chain Management: A case study on OYO	21 January 2020
87	ME	Computational Fluid Dynamics	17 January 2020
88	ME	An expert lecture on HVAC	4 February 2020
89	ME	Alumni Interactive session on Project based learning-An SAE initiative	6 February 2020
90	ME	Webinar on "Basics of Psychometrics"	10 April 2020
91	ME	Webinar on "Heat Load Calculation"	16 April 2020
92	ME	A webinar on "Career prospects of Mechanical Engineers in Tyre Industry"	17 April 2020
93	ME	A webinar on "Humanitarian Logistics in a Nutshell: Analysing COVID-19 response"	22 April 2020
94	ME	A webinar on "Importance of Goal in Life and Success"	23 April 2020

## Conferences, Workshops and Training Programmes

S.No.	Department	Conference	Dates
95	ME	A webinar on “Your First year as Graduate Engineer: Transformation from student to Professional Engineer”	8 May 2020
96	ME	Webinar on Career Opportunities for Mechanical Engineers in R & D Sector	5 October 2020
97	ME	Mega Webinar on Road Safety Awareness in Collaboration with HERO MOTO CORP. LTD	29 October 2020
98	ME	Discussion on “HVAC&R industry – career perspectives	22 August 2020
99	EECE	Vocabulary Building” from TIME education	15 January 2020
100	EECE	Group Discussion Preparation and Mock GD	20 January 2020
101	EECE	Quantitative Aptitude” from TIME education	12 February 2020
102	EECE	Creation of Analysis Database, First Clustering, Labelization, Model for implementing Machine Learning, Importance of AI, future of work with AI, Algorithms and various programming languages	13 February 2020
103	EECE	PLC basics’	6 February 2020
104	EECE	Hands on session on PLC’	13 February 2020
105	EECE	HMI basics	5 March 2020
106	EECE	Basics of MATLAB and SIMULINK	6 February 2020
107	EECE	Automotive Software	13 February 2020
108	EECE	A Digital Marketing	4 February 2020
109	EECE	Bootcamp in two specializations - (i) Internet of Things (ii) Embedded System and VLSI Design	23 April 2020
110	EECE	Coding Ninjas on 'Career & Placements Advice in Tech'	4 June 2020
111	EECE	STA in VLSI Design’	18 July 2020
112	EECE	Effective Communication : Lasting Impression	23 August 2020
113	EECE	Hands on Basics of Arduino Programming	19 September 2020
114	EECE	Session on Case Studies	29 October 2020
115	EECE	Self-Driving Car Safety	17 November 2020
116	EECE	Robotics and AI for Industrial Automation	7 November 2020
117	EECE	Industrial Automation	14 June 2020
118	EECE	Space, Time & Gravity	3 June 2020
119	EECE	From Automatic to Autonomous: Defining Industrial Vehicle Capabilities	16 May 2020
120	EECE	Applications of Global Navigation Satellite System	25 April 2020
121	EECE	Optical wireless communication	26 November 2020
122	CE	Entrepreneurial Opportunities for students in Real Estate	20 January 2020
123	CE	Building Information Modeling and its relevance in context to Indian Construction Industry	22 October 2020



## Conferences, Workshops attended by Faculty

S. No.	Faculty	Dept.	Conference/ Workshop/ Seminar	Venue	Dates
1	Dr. Pallavi Bajpai	SOL	Participated on Virtual Dialogue Series organised on the theme Law in Digital Age and Indian Legal Industry Transformation and Functioning of Courts during Covid-19: The Bar, Bench and Government perspective	The Bar Council of Punjab and Haryana	7 May - 9 May, 2020
2	Dr. Pallavi Bajpai	SOL	Participated in a National Webinar on Mental Health Awareness & Emotional Well-Being Legal Imperatives in this Covid -19 and presented a paper Corporate Social Innovation Strategies During Covid 19: Facilitating An Affirmative Impact On Society as well as Businesses Workplace (Prevention, Prohibition & Redressal) Act, 2013'	IP University	10 May 2020
3	Dr. Unanza Gulzar & Dr. Pallavi Bajpai	SOL	Attended one week FDP programme on "Emerging Contours of Legal Education and Teaching Techniques"	Vivekananda Institute of Professional Studies	01 June - 06 June 2020
4	Garima Lakhmani	SOL	Attended NAAC Accreditation Management System Demo Dispute Resolution in India	Inpods, a US-based IT product company	2 June 2020
5	Dr. Pallavi Bajpai	SOL	Completed one month Faculty Induction Program	Ramanujan College, University of Delhi	3 June - 1 July 2020
6	Garima Lakhmani	SOL	Attended webinar on "Impact of Covid-19 on Legal Education Sector and its responses thereon	Indian Law Institute	24 June 2020
7	Garima Lakhmani, Ms. Mahima Mahajan & Dr. Unanza Gulzar	SOL	Participated in one-week Online Faculty Development Programme on "Research Methods and Innovative Teaching Techniques"	IMS Unison University, Dehradun	29 June - 4 July 2020
8	Pallavi Bajpai	SOL	Attended three days National Workshop on "Emerging Contours of Cyberspace and the Legal Regime"	Vivekananda School of Law and Legal Studies	3 June - 5 June 2020
9	Dr. Unanza Gulzar, Ms. Deborisha Dutta, Mr. Himagshu Rathee, Dr. Pallavi Bajpai, Aashia Jindal	SOL	One week Faculty Development Programme on Law and the Vulnerable	Karnataka State University	18 August - 25 August 2020
10	Dr. Tavleen Khurana	SOL	Six week e-Faculty Development Programme on 'The Best Online Teaching Apps'	Edge India Academy	8 -12 September 2020
11	Aashia Jindal	SOL	10 Days Research Methodology Course sponsored by ICSSR	Sikkim University	14-23 September 2020
12	Dr. Tavleen Khurana	SOL	Online 40 hours Certification Program in Mediation	The Indian Law Institute	29-31 October 5-7 November (Phase II)
13	Prof. (Dr.) Manjula Batra	SOL	Chaired the session on "Data Protection and Data Privacy" at the National Conference	Cyberlaws	25-27 November 2020

## Conferences, Workshops attended by Faculty

14	Dr. Unanza Gulzar	SOL	Presented paper titled on "Bio-Piracy of Traditional Knowledge in 21st Century with Reference to Ayurveda: Need for Robust Rulebooks" in the National Webinar on AATM Nirbhar Bharat- Shresth Bharat	Guru Gobind Singh Indraprastha University	6 December, 2020
15	Dr. Priyanka Vashisht	CSE	Role of Information Technology in Medical Science	IPSM, Dwarka, New Delhi	20 February 2020
16	Dr. Rita Chikara	CSE	PSO for Feature Selection in Steganalysis	IEEE NCU SB in association with its WIEABAG	18 July 2020
17	Dr. Rita Chikara	CSE	GLBPSO for Feature Selection in Steganalysis	International Conference of Present Scenario of Technology and Sciences, 2020	8 August 2020
18	Dr. Mehak Khurana	CSE	Image Steganography in Short Term Training Programme (STTP) under AICTE-AQIS on Image Processing and its Application	Poornima Institute of Engineering & Technology, Jaipur	28 August 2020
19	Dr Kavita Khanna	CSE	Cryptography and Data Security: Public key, Private Key – Trust Models	Galgotia College of Engineering and Technology,	5 October 2020
20	Dr Kavita Khanna	CSE	Digital Tools of Learning	Guru Nanak Institute of Management, New Delhi.	16 October 2020
21	Dr Pooja Sapra	CSE	Demystifying Blockchain	Department of Computer Science, Delhi Technical Campus, Bahadurgarh	20 November 2020
22	Dr Kavita Khanna	CSE	NumPy and Pandas in Python	Maharaja Surajmal Institute, Janak Puri, New Delhi	22 December 2020
23	Anmol Bhatia	ME	Train the Trainer-Workshop by Mitsubishi Electric Limited	Mitsubishi Electric Limited	3 April 2020
24	Mr. Roshan Raman	ME	Two weeks online Short-Term Training on Green Energy Technologies for Sustainable Development	NIT Kurukshetra (Online)	11 June- 20 June 2020
25	Dr. Satnam Singh	ME	Five-day FDP on " Imminent trends in mechanical engineering"	Kommuri Pratap Reddy Institute of Technology (Online)	29 June - 3 July 2020
26	Dr Sunita Sharma	APS	Potential antiviral and antibacterial nanomaterials applications including COVID pandemic	Universiti Teknologi Malaysia	28 September 2020
27	Dr Sanjay Yadav	APS	Real Life Applications of Riemann Integral	Classroom teaching in Amity University, Noida	28 October 2020

## Conferences, Workshops attended by Faculty

28	Dr Swaranjeet Arora	SOM	Know how of UGC approved Journals for publication	Indore Institute of Law, Indore (M.P.)	10 June 2020
29	Dr. Priyanka Banerji	SOM	Career Prospects and Ladders	DAV Centenary Public School, Bahadurgarh	1 February 2020
30	Dr. Jahanvi Bansal	SOM	Career Prospects and Ladders	DAV Centenary Public School, Bahadurgarh	1 February 2020
31	Dr. Vandana Khanna	EECE	Coding Ninjas		Dec-2019 - Jan-2021
32	Dr. Vandana Khanna	EECE	Design and Verification using Verilog	Excel VLSI Technologies, Bengaluru	6 April -11 April 2020
33	Dr. Anjali Garg	EECE	On line Course in Solar Energy	University of New York (Coursera)	20 April 2020
34	Dr Pooja Sabherwal	EECE	Various Project Opportunities for DST Funding	Vandalur, Chennai – 48	23 May 2020
35	Dr. Anjali Garg	EECE	Online Course on Introduction to Power Electronics	University of Colorado (Coursera)	20 May 2020
36	Amanpreet Kaur	EECE	Online Course on Genetic Algorithms: Theory and Applications	Udemy platform	5 May 2020
37	Amanpreet Kaur	EECE	Online FDP on R Programming	New Chandigarh	27 April - 01 May 2020
38	Dr. Anjali Garg	EECE	Online Course on Python (Coding Ninjas)	Coding Ninjas	20 June 2020
39	Dr. Anjali Garg	EECE	Online Training Session with Mitsubishi Electric	Mitsubishi Electric India Pvt.	24 June 2020
40	Amanpreet Kaur	EECE	Online Course on Machine Learning	Mathworks	6 July 2020
41	Amanpreet Kaur	EECE	Green Technology	J.C. Bose University, YMCA, Faridabad	18-20 July 2020
42	Amanpreet Kaur	EECE	Research Paper Writing using LaTeX	IIT Bombay	20-24 July 2020
43	Amanpreet Kaur	EECE	Online course on Recent Trend in Industrial Automation	Manav Rachna International Institute of Research & Studies Faridabad.	4 August - 9 August 2020
44	Dr. Vandana Khanna	EECE	Workshop on "IC Design Concept to Sign-OFF for RTU(ATU)		7 August 2020
45	Pooja Sabherwal	EECE	Getting started with Python	University of Michigan from coursera	29 September 2020
46	Prof. Ram Karan Singh	CE	Strategies for Drug Free Campuses	Takniki Shiksha Sadan, Sector – 4, Panchkula	22 January 2020
47	Prof. Ram Karan Singh	CE	The National Conference on Empowering Students to be Industry Ready and how to Select Right Career Path	Vigyan Bhawan, New Delhi	28 January 2020



## Conferences, Workshops attended by Faculty

49	Dr. Vaishali Sahu	CE	Workshop on "Redefining Water Space"	TERI School of Advanced studies, New Delhi	28 January 2020
50	Prof. Ram Karan Singh	CE	National Educational Policy 2020	NIU, Greater Noida	25 September 2020
51	Prof. Ram Karan Singh	CE	International Workshop on Application of Remote Sensing & GIS	Jointly organized by IAWEEES & IHE-UNESCO, In Association with: RNTU, NIH, CSIR-AMPRI, WAKLMI, NCU, CVRU	1 December-3 December 2020

## Guest Lectures & Webinars

1. EECE department organized a session on “Vocabulary Building” by Mr. Sunil Dua, Chief Knowledge Expert from TIME education on 15 January 2020 under SPIE Society.
2. EECE department organized a session on Group Discussion Preparation and Mock GD by Ms. Tarannum Raza, Professional Career Counsellor from TIME Education on 28 January 2020 under SPIE Society.
3. EECE department organized a session on “Quantitative Aptitude” by Mr. Sumit Mishra, Trainer from TIME education on 12 February 2020 under SPIE Society.
4. A guest lecture was organized by ECE dept. on 13 February 2020 from 1:30 pm to 2:30 pm by Mr. Mohit Grover, Head of Automation and Innovation-Global Sales support Nokia.
5. A Skill Development Programme was organized by EECE Department on MATLAB and Simulink under SPIE Society on Basics of MATLAB and SIMULINK by Mr. Jitender Kumar, Senior Engineer, Design Tech on 6th February 2020.
6. A lecture was delivered on Automotive Softwares used in the industry using SIMULINK design by Mr. Aman Singla (Alumni of ECE) on 13th February 2020.
7. A lecture on Digital Marketing Session was organized by department of EECE on 4th February, 2020 by Mr. Amit Dhawan, NCU Alumni, Founder of Sociowash India Pvt Ltd.
8. A Bootcamp for B.Tech ECE 2nd Semester students was organized by EECE Department on 23rd April 2020 for the selection of specialization by Mr. Shivappa K Madegowda (Co-Founder and Director at Excel VLSI Technologies Pvt. Ltd) and Mr. Sidharth Bhatia (Freelance Consultant and Former Chief Innovation Officer – Wearit Global Limited).
9. A webinar of ‘Industry 4.0’ was delivered by Mr. Akshit Dhyani, Senior Project Officer in WWF-India on 17th May 2020 by EECE Department.
10. A webinar was organized by Coding Ninjas on ‘Career & Placements Advice in Tech’ on 4 June 2020 by Mr. Ankush Singla, co-founder Coding Ninjas, India.
11. A webinar on ‘STA in VLSI Design’ was delivered by one of the M.Tech alumnus -Ms. Shivani Garg, who is currently working as SoC Design Engineer at Intel. It was organized on 18th July 2020 by EECE Department.
12. EECE department organized a session on Resume Writing by Ms. Shreya Gupta under SPIE Society on 27th August 2020.
13. EECE Department under Effective Altruism Club has organized the webinar on “Effective Communication : Lasting Impression” on 23rd August 2020 by Dr. Swastika Verma, HarvardX scholar influencer cum Mentor.
14. EECE Department under the Effective Altruism Club organized a webinar on Hands on Basics of Arduino Programming on 19th September 2020 by Dr. Pankaj Rakheja.
15. The Creator’s Garage Club of EECE Department organized a webinar on How To Successfully Bridge The Gap from Project Management to Resume on 27th September, 2020 by Dr. Jyotika Pruthi.
16. EECE department organized a session on Case Studies by Mr. Amit Poddar, Senior Regional Head Position under SPIE Society in association with TIME Group on 29th October 2020.
17. A webinar was organized by EECE Department on “Self-Driving Car Safety” was organized 17th November 2020 by Ms. Palak Talwar, Senior Safety Engineer at Lyft, is EECE Alumni.
18. A webinar was organized by EECE Department on “Robotics and AI for Industrial Automation” on 7th November 2020 by Mr. Sulabh Kumra, Team lead and Roboticist at Osaro (EECE Alumni).
19. A webinar was organized by EECE Department on “Industrial Automation” in the IEEE Webinar Series: Technologies that make a Difference on 14th June 2020 by Mr. Veer, Experienced personality in Design Analysis and Automation of Aero Engines.
20. A webinar was organized by EECE Department on “Space, Time & Gravity” was organized in the IEEE Webinar Series: Technologies that make a Difference on 3rd June 2020 by Ms. Parul Janagal, research scholar from Department of Astronomy, Astrophysics and Space Engineering at IIT Indore.
21. A webinar was organized by EECE Department on “From Automatic to Autonomous: Defining Industrial Vehicle Capabilities” in the IEEE Webinar Series: technologies that make a Difference on 16th May 2020 by Ms. Elena Messina, Group Leader of the Manipulation & Mobility Systems Group of the Intelligent Systems Division (ISD) at the National Institute of Standards and Technology (NIST).

22. A webinar was organized by EECE Department on "Applications of Global Navigation Satellite System" in the IEEE Webinar Series: technologies that make a Difference on 25th April 2020 by Prof. Amitava Sen Gupta, Retd. Acting director NPL.
23. An interactive session was organized by EECE Department on 15th April 2020 by Mr. Shailendra Mishra, Founder and CEO, DroneYuga.
24. A webinar was organized by EECE Department on "Optical Wireless Communication" by the Researchers' Club on 26th November 2020 by Dr Ram Sharma, EECE department alumni.
25. A webinar was organized by EECE Department on "Satellite Navigation – An Indian Perspective" on 8th December 2020 by Shri T. Subramanya Ganesh, Deputy General Manager ISRO Navigation Center.
26. A webinar was organized by EECE Department on 20th August 2020 by Ms. Bhavna Chibber, Vice-Principal, at the Gurugram Global Heights School.
27. The webinar was organized by EECE Department on interpersonal relationship and leadership qualities which was conducted on 20th September 2020 by Ms. Ripple Sarin, a senior international faculty for Children and Youth courses at the Art of Living Foundation.
28. A webinar was organized by EECE Department on Introduction to AI and ML on Google Cloud by Mr. Lias Papachristos, Google Cloud Architect & Data Analyst, Ahead of Tech, Lead GDG Cloud Thessaloniki on 27th November, 2020.
29. Guest lecture on Judiciary as a career option, was delivered by a representative from Pahuja Law Academy on 31 January 2020
30. Lecture by Pahuja Judicial Academy on Civil Procedure Code on 7 February 2020.
31. Webinar on the theme "Mooting: A Honing Skill for Law Students" by Mr. Madhur Chabara, Associate Consultant in Risk Advisory Practice, Ernest & Young, Gurugram along with Mr. Suyash Srivastava, Associate Partner, Avid Legal, Delhi was conducted 24 April 2020
32. Webinar on "What avails our Criminal Justice Delivery System". The speaker of the webinar was Justice S.N Dhingra (Retd.) High Court of Delhi on 13 May 2020
33. Webinar on "Essence of International Commercial Arbitration and its Challenges" was conducted on 15th May 2020. The speakers of the webinar were Prof. Loukas Mistelis (Prof and Former Director of the School of International Arbitration, Queen Mary University) and Mr. Sarosh Zaiwalla, (Senior Partners, Zaiwalla and Co. Solicitors London)
34. A lecture was delivered on "Covid 19, Health and Safety of Lawyers: Lockdown and Beyond" on 10 May, 2020. The speaker was Justice A.K Sikri (Retd.) Supreme Court of India
35. A webinar was organized 14th June 2020 on "Career Options in Law. The Panelists for the discussion were Nitesh Kumar Upadhyay, the founder of knowledgedesteez.com, Kirti Goyal, Associate at Sanjay Kalra and Associates, an alumnus of SOL and Sugam Kumar Jha, a practicing advocate and Managing Director of Avid Legal, an alumnus of SOL on 14 June 2020
36. Webinar on the topic- "Rule of Law and Criminal Justice System" was organized on 18th July, 2020. The speaker of the session was Dr. Asad Malik, Associate Professor, Faculty of Law, Jamia Milia Islamia.
37. Webinar on "Suicide Prevention in The Age of Corona" on the occasion of World Suicide Prevention Day. The speakers for the session were Dr. Surabhika Maheshwari, faculty from I.P College for women, Delhi university and Ms. Ankita Deshmukh Clinical psychologist, Pune on 10 September 2020
38. Webinar on Excellence in Legal Education: Theory to practice was conducted in association with LatestLaws.com. The speakers of the session were Dr. Manish Arora, Advocate Supreme Court of India; Mr. Tariq Khan, Principal Associate, Advani and Co. New Delhi on 30-Sep-2020
39. Webinar on Issues and Challenges on Bio-piracy in 21st Century: National and International Perspective". was conducted on 12 October, 2020. The speakers of the webinar were Ms. Claudia Masoni, Professor, University of Pisa, Italy and Dr. Nisha Dewani, Assistant Professor Maims.
40. "Series of Expert lectures on Procedural Law" by SOL was conducted from 26th October- 15th November 2020
41. Scc Online Training was conducted on 14th December, 2020
42. Entrepreneurial Opportunities for Students in Real Estate by Prof. Anupam Saxena, Associate Dean and Director, School of Real Estate & Structures, Noida was delivered on 20 January, 2020
43. Building Information Modeling and its relevance in context to Indian Construction Industry by Mr. Rohith Harish, Senior BIM Project, Manager from TechnoStruct Academy was conducted on 22 October, 2020



## Industrial Visits

S. No.	Department	Industry	Dates
1.	CSE	Maruti Suzuki India Ltd (MSIL), Gurugram	14 January 2020
2.	ECE	IMT Manesar	20 January 2020
3.	SOL	Bhondsi Jail, Gurugram	5 February 2020
4.	CE	Educational trip to TERI Gram Retreat	17 February 2020
5.	SOM	Bisleri International, Kirti Nagar	18 February 2020
6.	SOL	Women Police Station, Sector 51, Gurugram	4 March 2020
7.	SOL	KKAMALINI Vocational Training Centre, Alipur, Sohna, Gurugram	5 March 2020
8.	SOM	Industrial visit to BOSCH Ltd, Jaipur	5 March - 6 March 2020

# Research Publications

January 2020 - December 2020

January 2020

## Book Chapter

### International

- Deepika Bansal\*, Kavita Khanna, Rita Chhikara, Rakesh Kumar Dua and Rajeev Malhotra (2019) 'A study on dementia using machine learning technique' in Communication & Computing Systems (Proceedings of the 2nd International conference on Communication and Computing Systems (ICCCS 2018), Chapter 66, pp. 414-420, CRC Press - Taylor & Francis, ISBN-978-0-367-00147-6, CSE2020BC001.
- Unanza Gulzar (2020) 'A Critical Appraisal of Crime over Social Networking Sites in the Context of India: Social Networking Sites' in New Media and Visual Communication in Social Networks, Chapter 6, pp. 93-112, IGI GLOBAL, ISBN-9781799810452, SOL2020BC001.
- Unanza Gulzar (2020) 'Problems faced by E-commerce Transactions with Special Emphasis on Digital Economy in Indian and European Union' in Impact of Mobile Services on Business Development and E-commerce, Chapter 5, pp. 89-107, IGI GLOBAL, ISBN-9781799800507, SOL2020BC002.

## Journals

### International

- Khushbu Gupta\* and Tejpal Singh Chundawat (2019) 'Bio-Inspired Synthesis of Platinum Nanoparticles From Fungus *Fusarium Oxysporum*: its Characteristics, Potential Antimicrobial, Antioxidant and Photocatalytic Activities', Materials Research Express, Vol. 6, No. 10, pp. 1-11, APS2020J001.
- Vaibhav Mishra\*, Anju Arya and Tejpal Singh Chundawat (2019) 'High Catalytic Activity of Pd Nanoparticles Synthesized From Green Alga *Chlorella Vulgaris* in Buchwald-Hartwig Synthesis of N-Aryl Piperazines', Current Organocatalysis, Vol. 7, No. 1, pp. 23-33, APS2020J002.
- Anju Arya\*, Akhil Mahajan and Tejpal Singh Chundawat (2019) 'Microwave-Assisted One-Pot Synthesis of 2-Substituted Quinolines by Using of Palladium Nanoparticles as a Catalyst developed from Green Alga *Botryococcus braunii*', Current Organocatalysis, Vol. 7, No. 1, pp. 1-7, APS2020J003.
- Khushbu Gupta\* and Tejpal Singh Chundawat (2019) 'Role of Enzymes in Synthesis of Biologically Important Organic Scaffolds', Asian Journal of Chemistry, Vol. 13, pp. 2698-2706, APS2020J005.
- Mahendra Singh Sodha\* and Sujeet Kumar Agarwal (2019) 'Application of Boltzmann's Transfer Equation to Nonlinear Propagation of a Plane Polarized Monochromatic EM Wave in Ionospheric Plasma', Physics of Plasmas, Vol. 26, No. 10, pp. 102902, APS2020J006.
- Pranati Purohit\*, Indu Elizabeth, S. Sheela Kumar and Sushil Kumar (2019) 'Optimization of a Piezoelectric Mechanical Amplifier Actuator for Nano-Indentation', Integrated Ferroelectrics, Vol. 202, No. 1, pp. 144-150, APS2020J007.
- Deepika\* and Hukum Singh (2019) 'AC Conductivity and Dielectric Relaxation of  $\text{Se80-xTe20Bix}$  ( $x=6, 12$ ) Glasses', Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B, Vol. 60, No. 6, pp. 222-230, APS2020J008.
- Namita Dahiya and Shilpa Mahajan\* (2019) 'A comparative study of various existing malware analysis methods', International Journal of Networking and Virtual Organisations, Vol. 21, No. 2, pp. 268-276, CSE2020J001.
- Hitesh Yadav\*, A Charan Kumari and Rita Chhikara (2020) 'Feature Selection Optimization of software product line using metaheuristic techniques', International Journal of embedded system, Doi: 10.1504/IJES.2020.10026155, CSE2020J002.

- Smridhi Seth, Shreya Sharma and Vandana Khanna\* (2019) 'DC Analysis and Inference of Noise Margins for FINFET Inverters', International Journal of Advance Research and Innovation, Vol. 7, No. 2, pp. 129-132, ECE2020J001.
- Prithu Jain, Shalabh Bansal and Vandana Khanna\* (2019) 'Analysis of 6T SRAM Cell in Different Technologies', International Journal of Advance Research and Innovation, Vol. 7, No. 2, pp. 133-135, ECE2020J002.
- Anshul Vats\*, Mona Aggarwal and Swaran Ahuja (2019) 'End-to-end performance analysis of hybrid VLC-RF system using decode and forward relay in E-health medical applications', Optik, Vol. 187, pp. 297-310, ECE2020J003.
- Prashast Sharda, Tanisha Tyagi and Naresh Kumari\* (2019) 'Medical and Astronomical Applications of Raman Spectroscopy', International Journal of Advanced Engineering Research and Applications, Vol. 5, No. 2, pp. 50-55, ECE2020J004.
- Uttpal Raj and Naresh Kumari\* (2019) 'Wired and Wireless Modes of Communication and their Comparison', International Journal of Advance Research and Innovation, Vol. 7, No. 3, pp. 253-255, ECE2020J005.
- Anita Sharma\*, Swaran Ahuja and Moin Uddin (2019) 'On end-to-end performance of variable gain AF relayed cognitive underlay networks', Australian Journal of Electrical and Electronics Engineering, Vol. 16, No. 4, pp. 305-318, ECE2020J006.
- Anita Sharma\*, Mona Aggarwal, Swaran Ahuja and Moin-Uddin (2019) 'Error analysis of dual-hop DF relayed underlay cognitive networks over EGK fading channels', SN Applied Sciences, Vol. 1, No. 7, ECE2020J007.
- Pankaj Rakheja\*, Rekha Vig and Phool Singh (2019) 'An asymmetric hybrid watermarking mechanism using hyperchaotic system and random decomposition in 2D Non separable linear canonical domain', Proceedings of the Indian National Science Academy, Doi: 10.16943/ptinsa/2019/49590, ECE2020J008.
- Abhijeet Kumar, Vandana Khanna\*, Sahaj Khurana and Devanshi Bhatia (2019) 'Design of CMOS Operational Amplifier in 180 nm Technology', International Journal of Analog Integrated Circuits, Vol. 5, No. 1, pp. 5-14, ECE2020J009.
- Saksham Arora, Piyush Yadav and Vandana Khanna\* (2019) 'Design of Voltage Controlled Oscillator using CMOS 180 nm Technology', International Journal of Analog Integrated Circuits, Vol. 5, No. 1, pp. 32-37, ECE2020J010.
- Ram Sharma, A. Charan Kumari, Mona Aggarwal\* and Swaran Ahuja (2019) 'Down-link performance of an LED based visible light communication system through dynamic control of semi-angle', Physical Communication, Vol. 33, pp. 222-230, ECE2020J011.
- Ram Sharma, A. Charan Kumari, Mona Aggarwal\* and Swaran Ahuja (2019) 'Directional Beam Based LED Deployment for a Short Range Indoor LED Light Communication System', Journal of Optical Communications, Doi: <https://doi.org/10.1515/joc-2018-0214>, ECE2020J012.
- Himanshu Khanna, Mona Aggarwal\* and Swaran Ahuja (2019) 'A novel project-and-forward relay-assisted mixed RF-FSO system design and its performance evaluation', Transactions on Emerging Telecommunications Technologies Doi: <https://doi.org/10.1002/ett.3584>, ECE2020J013.
- Rajat Gupta, Mona Aggarwal\* and Swaran Ahuja (2019) 'Hamiltonian Graph Analysis - Mixed Integer Linear Programming (HGA-MILP) Based Link Failure Detection System in Optical Data Center Networks', Journal of Optical Communications, Doi: <https://doi.org/10.1515/joc-2019-0090>, ECE2020J014.
- Unanza Gulzar (2019) 'Vanishing Themes of Indian Victim Compensation Law: An Exploration', Journal of Victimology and Victim Justice, Vol. 2, No. 2, pp. 1-10, SOL2020J001.
- Unanza Gulzar (2018) 'Voids and Abysses in Information Technology

Act, 2000 Vis-à-vis E-commerce: Defies Ahead', International Journal of Research in Management and Social Science, Vol. 6, No. 1, pp. 127-133, SOL2020J003.

## Journals

### National

- Vaibhav Mishra\* and Tejpal Singh Chundawat (2019) 'Silica Supported Piperazine Sulfosalicylic Acid: A Reusable and Efficient Catalyst for Synthesis of 2-aryl-benzimidazoles', Indian Journal of Chemistry, Section-B, Vol. 58B, pp. 1153-1161, APS2020J004.
- Unanza Gulzar (2019) 'Catastrophe of protection of accused under Criminal Justice administration In India', Lex Jura Law Journal, pp. 54-70, SOL2020J002.

## Conference Presentations

### National

- Unanza Gulzar (2019) 'An Evaluation of prominence of textile Industries Under GI in India', Role of intellectual property rights in a Global Economy: Challenges and Issues, Rajiv Gandhi National University of Law, SOL2020C002.
- Unanza Gulzar (2019) 'Catastrophe of Protection of accused under criminal Justice Administration in India', Criminal justice Administration in India: Emerging Dimensions, Aiding Hands Foundation, SOL2020C003.
- Unanza Gulzar (2019) 'Payback of ADR Structure under Criminal Justice System in India', Alternative Dispute Resolution: Emerging Issues, Sharda University, SOL2020C004.
- Divyabha (2019) 'Women Speak: Class, Gender and Identity', Women Empowerment in English Literature, IB(PG) College, Panipat, Kurukshetra University, CLL2020C001.
- Shrutimita Mehta (2019) 'Emerging Identities: Breaking Bonds of Repression and Exclusion-Women in the Works of Shashi Deshpande', Women Empowerment in English Literature, IB(PG) College, Panipat, Kurukshetra University, CLL2020C002.

## Conference Presentations

### International

- Unanza Gulzar (2019) 'Assessment of alternative Dispute resolution In Resolving Environmental Hitches', Arbitration and Conciliation: Challenges and new Horizons, Lucknow University, SOL2020C001.
- Shrutimita Mehta (2020) 'Chimamanda Ngozi Adichie's We Must All Be Feminists: Understanding 21st Century Feminism', Through a (new) Looking Glass: Challenges for Women in the 21st Century, Shamlal College (University of Delhi) in association with Indian Council of Social Science Research, CLL2020C003.

## February 2020

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### International

- Neeti Kashyap\*, A. Charan Kumari and Rita Chhikara (2020) 'Service composition in IoT - A review' in Intelligent Data Communication Technologies and Internet of Things, Lecture Notes on Data Engineering and Communications Technologies (book series), Chapter 32, pp. 287-291, Springer Nature Switzerland AG 2020, ISBN-978-3-030-34080-3, CSE2020BC002.

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- Shivani Yadav\* and Hukum Singh (2020) 'An image encryption scheme

based on hybrid fresnel phase mask and singular value decomposition', Recent Advances in Computer Science and Communications Formerly: Recent Patents on Computer Science, Vol. 12, No. 1, APS2020J009.

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- Priyanka Vashisht, Vijay Kumar\*, Rajesh Kumar and Anju Sharma (2019) 'Optimization of replica consistency and conflict resolution in data grid environment', International Journal of Mathematical, Engineering and Management Sciences, Vol. 4, No. 6, pp. 1420-1433, CSE2020J006.
- Roshan Raman\* and Naveen Kumar (2020) 'Experimental studies to evaluate the combustion, performance and emission characteristics of acetylene fuelled CI engine', International Journal of Ambient Energy, Doi: <https://doi.org/10.1080/01430750.2019.1709896>, MED2020J001.
- Anita Sharma\*, Mona Aggarwal, Swaran Ahuja and Moin-Uddin (2019) 'End-to-end performance of hybridDF/AF(HDAF) relayed underlay cognitive radio networks', International Journal of Electronics and Communication, Doi: <https://doi.org/10.1016/j.aee.2019.153056>, ECE2020J015.
- Anjali Garg\* (2020) 'Experimental set up and implementation of a DSP ez2812 controller based voltage control of selfexcited induction generator', JIMS 8i- International Journal of Information, Communication and Computing Technology, Vol. 8, No. 2, pp. 392-399, ECE2020J016.

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- Indu Bala and Anupam Yadav (2019) 'Optimal reactive power dispatch using gravitational search algorithm to solve IEEE-14 Bus system', International Conference on Communication and Intelligent Systems, Rajasthan Technical University, Kota, APS2020C001.
- Mahima Anand (2019) 'Doctoral track-investment in the career development of outsourced employees-A review', 7th PAN IIM World Management Conference, Indian Institute of Management, Rohtak, SOM2020C001.
- Deerga Sharma (2019) 'Mergers and acquisitions in Indian banking industry', International Conference on Management Winning in a Vuca World, The NorthCap University, Gurugram, SOM2020C002.
- Preeti Chawla (2019) 'Knowledge management in organisation: A study', International Conference on Management Winning in a Vuca World, The NorthCap University, Gurugram, SOM2020C003.
- Preeti Chawla (2019) 'Digital finance and financial inclusion in India: An



overview', International Conference on Management Winning in a Vuca World, The NorthCap University, Gurugram, SOM2020C004.

- Sapna Raghav, Anjali Garg and B.K. Das (2019) 'Emulator and its contribution in solar power analyses', International Conference on Trends in Computational and Cognitive Engineering, Central University, Mahendergarh, Haryana, ECE2020C001.
- Aakriti khanna, Anjali Garg and Alka Singh (2019) 'Maintenance of DC link voltage using synchronous reference frame theory', 3rd International Conference on Recent Developments in Control, Automation and Power Engineering, Amity University, Noida, ECE2020C002.
- Anjali Garg, Vibhu Mehta, Shubham Soni, Ritika Sharma, Himanshu Goyal and Divyam Sachdeva (2019) 'Innovative smart hoisting assistance', 5th International Conference on Recent Developments in Science, Engineering and Technology, G.D. Goyenka, Gurugram, ECE2020C003

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### International

- Javed Mallick\* and Ram Karan Singh (2020) 'Inter-seasonal variations of surface temperature and vegetation cover using thermal remote sensing data', 8th International Conference on Fusion of Science and Technology (ISFT-2020), pp. 1-15, CEE2020P001.
- Raisy C D, Sharda Vashisth\* and Amitava Sen Gupta (2019) 'Soil moisture content detection based on GNSS- Reflectometry', IEEE Geoscience and Remote Sensing Conference (TENGARSS-2019), pp. 112-115, ECE2020P001.

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- Dharmendra Kumar Srivastava, Vaishali Sahu\* and H.B. Raghavendra (2020) 'Forensic study of slope failure case during heavy rainfall: Suggested preventive and remedial measures', Geotechnical and Geological Engineering, DOI: <https://doi.org/10.1007/s10706-020-01247-z>, CEE2020J003. (MARCH 2020)
- Vineet Tirth\*, Ram Karan Singh, Saiful Islam, Irfan Anjum Badruddin, Rini Asnida Binti Abdullah, Ali Algahtani, Essam R.I. Mahmoud, Amir Arabi, Neeraj Kumar Shukla and Parul Gupta (2020) 'Kharif crops selection for sustainable farming practices in the rajasthan-india using multiple attribute-based decision-making', Agronomy, Vol. 10, No. 4, pp. 536-550, CEE2020J004. (APRIL 2020)
- S. Bhatia\*, Prabha Sharma, P. Singh and Pramod Bhatia (2020) 'Analyzing the impact of temperature on axoplasmic fluid properties defining neuronal excitation', Journal of Thermal Engineering, Vol. 6, No. 3, pp. 227-241, MED2020J002. (APRIL 2020)
- Pulkit Bhasin, Praveen Singh and Satnam Singh (2020) 'Design and fabrication of low-cost wood working mini CNC milling machine for students skill development', International Journal of Advance Research and Innovation, Vol. 8, No. 1, pp. 30-33, MED2020J003. (APRIL 2020)
- Niragi Dave, Vaishali Sahu and Anil Kumar Misra\* (2020) 'Development of geopolymers cement concrete for highway infrastructure applications', Journal of Engineering Design and Technology, DOI: <https://doi.org/10.1108/JEDT-10-2019-0263>, CEE2020J005. (MAY 2020)

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### International

- Anmol Bhatia (2020) 'Friction stir welding of carbon steel: Effect on microstructure and tensile strength', 10th International Conference on Materials Processing and Characterization, GLA University, Mathura, MED2020C001. (APRIL 2020)

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#### International

- Esha Jain (2020) 'Digital employability skills and training needs for the indian healthcare industry', in Opportunities and Challenges in Digital Healthcare Innovation, Chapter 7, pp. 113-130, IGI Global, ISBN-9781799832744, SOM2020BC001.

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- Priyanka Vashisht\* and Vijay Kumar (2020) 'Agent based optimized replica management in data grids', Revista Investigacion Operacional, Vol. 41, No. 2, pp. 32-248, CSE2020J007.
- Meghna Sharma, Manjeet Singh and Priyanka Vashisht\* (2020) 'Machine learning techniques in RFID datasets', International Journal of Recent Technology and Engineering, Vol. 8, No. 6, pp. 4345-4353, CSE2020J008.
- Garima Sharma\*, Latika Singh and Sumanlata Gautam (2020) 'Facial feature extraction for emotion classification using fuzzy c-mean clustering', Recent Advances in Computer Science and Communications (Formerly: Recent Patents on Computer Science), Vol. 12, No. 1, pp. 2213-2759, CSE2020J009.
- Neeti Kashyap\*, A. Charan Kumari and Rita Chhikara (2020) 'Service composition in IoT using genetic algorithm and particle swarm optimization', Open Computer Science, Vol. 10, No. 1, pp. 56-64, CSE2020J010.
- Jyotika Pruthi, Kavita Khanna and Shaveta Arora\* (2020) 'Optic cup segmentation from retinal fundus images using glowworm swarm optimization for glaucoma detection', Biomedical Signal Processing and Control, Vol. 60, No. 102004, pp. 1-12, CSE2020J011.
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- Satnam Singh\*, Dheeraj Gupta and Sarbjit Kaushal (2020) 'Dry sliding wear performance of Ni-SiC composites developed through an in situ microwave casting process', Journal of Tribology, Vol. 142, No. 10, pp. 101704 (10 Pages), MED2020J004.
- Narottam Yadav, Kaliyan Mathiyazhagan\* and Krishna Kumar (2019) 'Application of six sigma to minimize the defects in glass manufacturing industry: A case study', Journal of Advances in Management Research, Vol. 16, No. 4, pp. 594-624, MED2020J005.
- Narottam Yadav, Kaliyan Mathiyazhagan\* and Krishna Kumar (2020) 'Modelling the common critical success factors for the adoption of lean six sigma in Indian industries', International Journal of Business Excellence, Vol. 20, No. 3, pp. 375 - 397, MED2020J006.
- Narottam Yadav and Kaliyan Mathiyazhagan\* (2019) 'Literature review: continuous improvement through lean six sigma',

International Journal of Productivity and Quality Management, Vol. 28, No. 1, pp.03-027, MED2020J007.

- Naveen Kumar and Kaliyan Mathiyazhagan\* (2017) 'Manufacturing excellence in the Indian automobile industry through sustainable lean manufacturing: a case study', International Journal of Services and Operations Management, Vol. 34, No. 2, pp. 180 - 196, MED2020J008.
- Naveen Kumar and Kaliyan Mathiyazhagan\* (2018) 'Sustainability in lean manufacturing: a systematic literature review', International Journal of Business Excellence, Vol. 20, No. 3, pp. 295 - 321, MED2020J009.
- Naveen Kumar, Kaliyan Mathiyazhagan\* and Deepak Mathivathanan (2019) 'Modelling the interrelationship between factors for adoption of sustainable lean manufacturing: a business case from the Indian automobile industry', International Journal of Sustainable Engineering, Vol. 13, No. 2, pp. 93-107, MED2020J010.
- Anmol Bhatia\*, Anmol Lakhwan2 and Ankit Jain (2020) 'Optimization of the effects of process parameters for tensile strength in MIG welded joints: A critical review', International Journal of Advanced Engineering Research and Applications, Vol. 6, No. 2, pp. 43-47, MED2020J011.
- Niket Kumar and Anmol Bhatia\* (2020) 'Automatic solar tracking system: An overview of design and fabrication', International Journal of Advanced Engineering Research and Applications, Vol. 6, No. 2, pp. 35-42, MED2020J012.
- Esha Jain\* and Jonika Lamba (2020) 'Forensic accounting: A way to fight, deter and detect fraud', IARS International Research Journal, Vol. 10, No. 1, SOM2020J003.
- Esha Jain (2019) 'Leather industry growth and relative strength analysis: A study', JIM Quest, Vol. 15, No. 1, pp. 15-24, SOM2020J004.
- Subhash C. Kundu\*, Archana Mor, Sandeep Kumar and Jahanvi Bansal (2019) 'Diversity within management levels and organizational performance: employees' perspective', Journal of Advances in Management Research, Vol. 17, No. 1, pp. 110-130, SOM2020J005.

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- Esha Jain (2020) 'A review study on sustainable development goals: UN 2030 Agenda', Our Heritage, Vol. 68, No. 5, pp. 1-13, SOM2020J001.
- Esha Jain (2020) 'Impact of goods and services tax on Indian economy', Our Heritage, Vol. 68, No. 7, pp. 1-14, SOM2020J002.

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### International

- Deerga Sharma (2019) 'Association between environmental and financial performance', Management winning a VUCA World, NCU, SOM2020C005.
- Deerga Sharma (2020) 'Emerging technologies in financial sector', Industry 4.0: Global Transformational Changes in Business and Managements, Jaipuria Institute of Management, SOM2020C006.
- Deerga Sharma (2020) 'Fintech: Boon or bane for Indian banking system', Industry 4.0: Global Transformational Changes in Business and Management, Jaipuria Institute of Management, SOM2020C007.

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- Prerna Singal\*, A. Charan Kumari and Prabha Sharma (2019) 'Estimation of software development effort: A differential evolution approach', Procedia Computer Science (ICCIDIS 2019), pp. 2643 - 2652, CSE2020P001.

- Monika Yadav and Manvi Breja\* (2019) 'Secure DNA and morse code based profile access control models for cloud computing environment', Procedia Computer Science (ICCIDIS 2019), pp. 2590-2598, CSE2020P002.
- Hitesh Yadav\* and Rita Chhikara and A Charan Kumari (2019) 'Feature selection optimization of healthcare software product line using BBO', Procedia Computer Science (ICCIDIS 2019), pp. 1696-1704, CSE2020P003.
- Neeti Kashyap\*, A. Charan Kumari and Rita Chhikara (2019) 'Multi-objective optimization using NSGA II for service composition in IoT', Procedia Computer Science (ICCIDIS 2019), pp. 1928 - 1933, CSE2020P004.
- Parneeta Dhaliwal, Ajay Kumar and Poonam Chaudhary\* (2019) 'An approach for concept drifting streams: Early dynamic weighted majority', Procedia Computer Science (ICCIDIS 2019), pp. 2653-2661, CSE2020P005.

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#### International

- Manju Dabass\*, Sharda Vashisth and Rekha Vig (2020) 'Effect analysis of contrast enhancement techniques on cancer classification in colon histopathology images using machine Learning', in Data Science and Analytics (Part of the Communications in Computer and Information Science book series), Chapter Part 1, pp. 103-119, Springer, Singapore, ISBN- 978-981-15-5826-9, ECE2020BC001.
- Kartikay Saini, Pankaj, Raisy CD, Preeti, Sharda Vashisth\* and Amitava SenGupta (2020) 'Preliminary evaluation of navigation and timing capability of IRNSS/NAVIC at The NorthCap University', in Data Science and Analytics (Part of the Communications in Computer and Information Science book series), Chapter Part 1, pp. 365-374, Springer, Singapore, ISBN- 978-981-15-5826-9, ECE2020BC002.
- Anjali Garg\*, Vibhu Mehta, Shubham Soni, Ritika Sharma, Himanshu Goyal and Divyam Sachdeva (2020) 'Innovative smart hoisting assistance', in Data Science and Analytics (Part of the Communications in Computer and Information Science book series), Chapter Part 1, pp. 328-338, Springer, Singapore, ISBN- 978-981-15-5826-9, ECE2020BC003.
- Dabass, Jyoti\*, Madasu Hanmandlu and Rekha Vig (2020) 'Segmentation of breast density using k-means clustering algorithm', in Data Science and Analytics (Part of the Communications in Computer and Information Science book series), Chapter Part 1, pp. 305-315, Springer, Singapore, ISBN-978-981-15-5826-9, ECE2020BC004.
- Unanza Gulzar (2020) 'Critical evaluation of law on traditional knowledge' in Intellectual Property Rights and Protection of Traditional Knowledge, Chapter 1, pp. 1-27, IGI Global, ISBN- 978-179-98-1836-6, SOL2020BC003.
- Mohammed Mujeeb\*, Venkata Dilip Kumar Pasupuleti and Archana Dongre (2020) 'Effect of vehicle impact on reinforced concrete structures' in Advances in Structural Engineering: Select Proceedings of FACE 2019 (Part of the Lecture Notes in Civil Engineering book series), Chapter 17, pp. 195-204, Springer Nature Singapore, ISBN- 978-981-15-4079-0, CEE2020BC001.

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### International

- Hukum Singh and Mehak Khurana\* (2020) 'An asymmetric optical cryptosystem of double image encryption based on optical vortex phase mask using gyrator transform domain', Recent Advances in Computer Science and Communications Formerly: Recent Patents on Computer Science, Vol. 12, No. 1, pp. 1-14, APS2020J010.

- Shri Dhar, Sanjay Yadav\*, Jyotsana, A.K Yadav and Phool Singh (2020) 'Particle swarm optimization algorithm to optimize the activity patterns of internal globus pallidus in parkinson disease', International Journal of Recent Technology and Engineering, Vol. 8, No. 5, pp. 5382-5389, APS2020J011.
- Seema Thakran, Rajesh Kumar, Ankush Gunghas and Kapil Kumar Kalkal\* (2019) 'Propagation of plane waves in a fiber-reinforced thermoelastic medium under lord-shulman model', Advances in Theoretical and Applied Mathematics, Vol. 14, No. 2, pp. 89-104, APS2020J012.

## Journals

### National

- Himagshu Rathee (2019) 'Mobile medi-care for the elderly in india: a critical review', Help Age India Research and Development Journal, Vol. 25, No. 2, pp. 39-46, SOL2020J004.

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### National

- Pallavi Bajpai (2020) 'Corporate social innovation strategies during covid 19 : facilitating on affirmative impact on society as well as business', Webinar on Mental Health, Guru Gobind Singh Indraprastha University, SOL2020C005.

### International

- Anu Arora\*, S. Dakkumalla, T.S. Ganesh, Sharda Vashisth and Amitava Sen Gupta (2020) 'Detection of travelling ionospheric disturbances using navic signals', URSI RCRS 2020, URSI RCRS, ECE2020C004.

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- Anu Arora\*, S. Dakkumalla, T.S. Ganesh, Sharda Vashisth and Amitava Sen Gupta (2020) 'Estimation of total electron content using NAVIC signals', URSI Regional Conference on Radio Science , pp. 1-7, ECE2020P002.
- Kartikay Saini\*, Raisy CD, Preeti, Sharda Vashisth and Amitava SenGupta (2020) 'A comparative study of position uncertainty in NAVIC and GPS', URSI Regional Conference on Radio Science, pp. 1-3, ECE2020P003.
- Aakriti khanna\*, Anjali garg and Alka Singh (2019) 'Maintenance of DC link voltage using synchronous reference frame theory', 3rd International Conference on Recent Developments in Control, Automation and Power Engineering, pp. 17-21, ECE2020P004.

## August 2020

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### International

- Surbhi Bhatia, Poonam Chaudhary and Nilajan Dey\* (2020) 'Opinion

Mining in Information Retrieval (Part of the SpringerBriefs in Applied Sciences and Technology book series (BRIEFSAPPLSCIENCES) Also part of the SpringerBriefs in Computational Intelligence book sub series (BRIEFSINTELL); Springer, ISBN-978-981-15-5042-3, CSE2020B001.

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### International

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- Manit Kakkar, Elisha Agarwal and Shaveta Arora\* (2020) 'Epidemiological covid-19 outbreak prediction and analysis using machine learning', International Journal of Advance Research and Innovation, Vol. 8, No. 2, pp. 119-124, CSE2020J014.
- Pankaj Rakheja\*, Phool Singh and Rekha Vig (2020) 'An asymmetric image encryption mechanism using QR decomposition in hybrid multi-resolution wavelet domain', Optics and Lasers in Engineering, Vol. 134, No. 106177, CSE2020J015.
- Pankaj Rakheja\*, Phool Singh and Rekha Vig (2020) 'Double image encryption scheme for iris template protection using 3D Lorenz system and modified equal modulus decomposition in hybrid transform domain', Journal of Modern Optics, Vol. 67, No. 7, pp. 1-14, CSE2020J016.
- Swaranjeet Arora and Shakuntla Jain\* (2020) 'Entrepreneurial intention among medical students: A comparative study', Prestige International Journal of Management and Research, Vol. 11, No. 3, pp. 54-60, SOM2020J008.
- Parul Munjal\* and Deergha Sharma (2020) 'Environmental performance and linkage with financial performance : Analysis of indian private and public sector banks', Vivekanand Journal of Research, Vol. 9, No. 1, pp. 125-133, SOM2020J010.

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### National

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- Nitika Kaushik\* and Poonam Arora (2020) 'Performance appraisal in the era of new normal', Journal of Technology Management for Growing Economics, Vol. 11, No. 1, pp. 11-15, SOM2020J007.
- Shakuntla Jain and Swaranjeet Arora\* (2020) 'Attitude towards Entrepreneurship among Engineering Students - A Comparative Study', Review of Professional Management, Vol. 18, No. 1, pp. 39-47, SOM2020J009.

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### International

- Swaranjeet Arora (2020) 'Impact of locus of control, risk taking propensity and attitude towards e-ship on entrepreneurial intentions among engineering studies', Rethinking Strategies for Leadership and Governance in Emerging Global Scenario, Prestige Institute of Management and Research, SOM2020C008.

- Deerga Sharma\* (2020) 'Predicting the antecedents of mobile banking acceptance in India by structural equation modelling', Pacific Business Review International, Vol. 12, No. 12, pp. 96-106, SOM2020J013.
- Ayush Gautam\*, Ravi Shankar and Prem Vrat (2020) 'End-of-life solar photovoltaic e-waste assessment in India: A step towards a circular economy', Sustainable Production and Consumption, Vol. 26, pp. 65-77, SOM2020J014.
- Neeta Sharma\* and Prem Vrat (2020) 'Inventory models with stock dependent demand: A comprehensive review and its linkage with waste management', International Journal of Inventory Research, Vol. 5, No. 2, pp. 112-152, SOM2020J015.
- Neeta Sharma\* and Prem Vrat (2018) 'Impact of Various factors on stock-induced food waste in Indian wedding', Journal of Advances in Management Research, Vol. 15, No. 1, pp. 37-57, SOM2020J016.

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#### International

- Shivani Yadav and Hukum Singh\* (2019) 'Asymmetric cryptosystem using structured phase masks in discrete cosine and fractional fourier transforms', Proceedings of International Conference on Trends in Computational and Cognitive Engineering (Part of the Advances in Intelligent Systems and Computing book series), pp. 27-39, APS2020P004.
- Sanjay Yadav\* and Gaurav Gupta (2019) 'Far-field behavior for study strong non-planer shock waves in magnetogasdynamics', Proceedings of International Conference on Trends in Computational and Cognitive Engineering (Part of the Advances in Intelligent Systems and Computing book series), pp. 305-315, APS2020P005.
- Jyotika Pruthi, Shaveta Arora\* and Kavita Khanna (2019) 'Segmentation of blood vessels from retinal fundus images using bird swarm algorithm and river formation dynamics algorithm', International Conference on Intelligent Computing and Smart Communication 2019 (Part of the Algorithms for Intelligent Systems book series), pp. 995-1007, CSE2020P008.

### November 2020

#### Book Chapter

##### International

- Monika Arora\* and Yogita Gigras (2020) 'Security, privacy, forensics analysis for smartphones', in Forensic Investigations and Risk Management in Mobile and Wireless Communications, Chapter 1, pp. 1-25, IGI Global, ISBN - 9781522595540, CSE2020BC006.

#### Book Chapter

##### National

- Unanza Gulzar\* and Garima Lakhmani (2020) 'A precarious assessment of internet privacy in india with special reference to Covid-19' in Global, Economic Order in the Post Covid-19 Era, Challenges, Opportunities and Strategies, Chapter 46, pp. 362- 370, Maharaja Agrasen University Publication, ISBN - 978-81-942547-3-7, SOL2020BC004.

#### Journals

##### International

- R.C. Mittal and Rajni Rohila\* (2020) 'The numerical study of advection-diffusion equations by the fourth-order cubic B-spline collocation method', Mathematical Sciences, DOI: <https://doi.org/10.1007/s40096-020-00352-7>, APS2020J018.

- Deepika\* and Hukum Singh (2020) 'Effect of Bi addition on optical properties of Se-Te-Bi films', Indian Journal of Physics, DOI: <https://doi.org/10.1007/s12648-020-01862-9>, APS2020J019.
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- Priyanka Verma\*, Anjali Goyal and Yogita Gigras (2020) 'Email phishing: text classification using natural language processing', Computer Science and Information Technologies, Vol.1, No.1, pp. 1- 12, CSE2020J023.
- Neetu Chillar\* and Swaranjeet Arora (2020) 'Basic financial literacy of salaried people in Delhi NCR: A comparative study', Prestige International Journal of Management and IT- Sanchayan, Vol. 9, No. 1, pp. 36-50, SOM2020J017.

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##### National

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- Ruchi Nayyar\* and Poonam Arora (2020) 'Modelling the impact of demographic variables on employee motivation levels in automobile industry', Indian Journal of Computer Science, Vol. 5, No. 1, pp. 11-17, SOM2020J018.
- Nitika Kaushik\* and Poonam Arora (2020) 'Digitized performance appraisal process: A case of brakes India', Journal of Strategy and Performance Management, Vol. 8, No. 2, pp. 64-78, SOM2020J019.

#### Conference Presentation

##### National

- Shrutimita Mehta (2020) 'From Typcasting to Transformation: The Thousand Faces of the Night by Githa Hariharan', Online National Seminar on 21st Century South Asian Fiction in English: Trends and Transition, Chaudhry Bansilal University, Bhiwani, CLL2020C006.
- Divyabha (2020) 'A study of caste matters and gender discrimination in the works of Meena Kandasamy', Online National Seminar on 21st Century South Asian Fiction in English: Trends and Transition, Chaudhry Bansilal University, Bhiwani, CLL2020C007.
- Unanza Gulzar (2020) 'A precarious assessment of internet privacy in India with special reference to covid-19', National Conference on Global, Economic Order in the Post Covid-19 Era, Challenges, Opportunities and Strategies, Maharaja Agrasen Institute of Management Studies, SOL2020C006.
- Unanza Gulzar (2020) 'The effect of board monitoring role on the integration of corporate social responsibility and corporate governance: A qualitative investigation', National Conference on Latest Trends in Corporate Laws and Governance Regime, Ansal University, SOL2020C007.
- Rekha, Nitika and Poonam Arora (2020) 'Digital transformation in HR applications', Sustainable Development and Business: Managing Organizations of Tomorrow, PGDAV, DU, SOM2020C012.

#### Conference Presentation

##### International

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