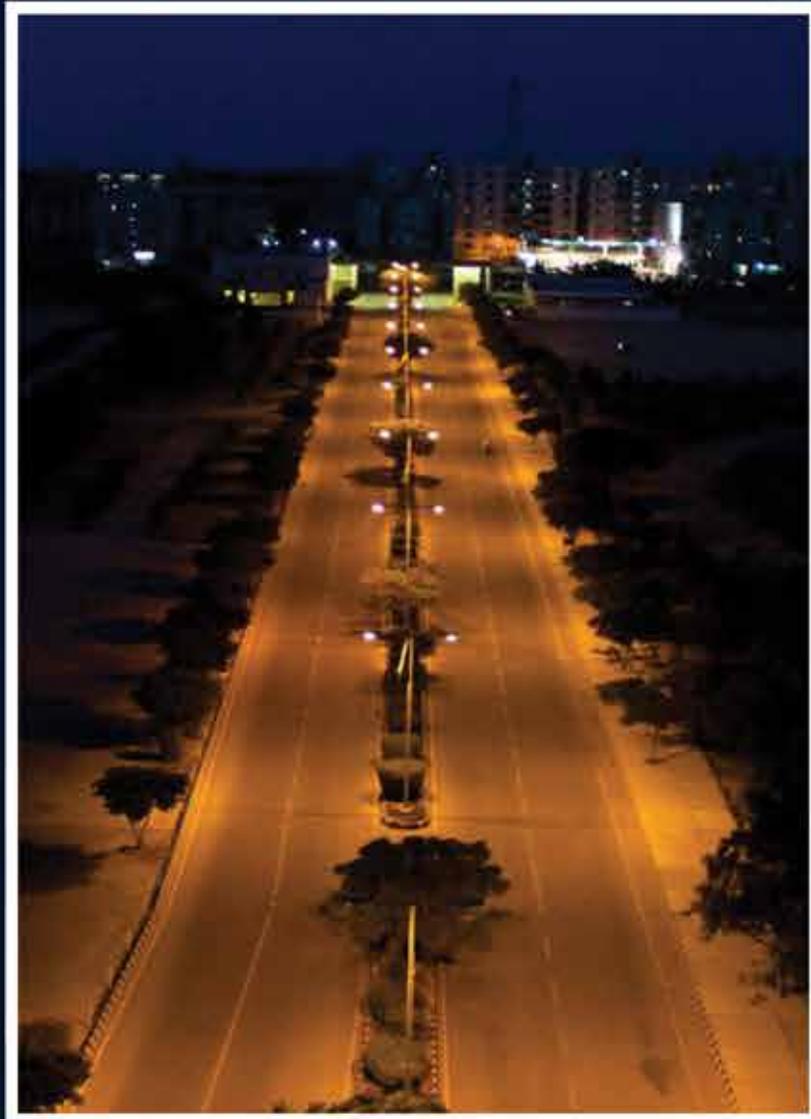


NED UNIVERSITY OF  
ENGINEERING & TECHNOLOGY



**ANNUAL REPORT**  
**2019 - 20**



## • Vision

Be a leader in enabling Pakistan's social and economic transformation.

## • Mission

Acquire education and research excellence in engineering and allied disciplines to produce leadership and enabling application of knowledge and skills for the benefit of the society with integrity and wisdom

## • Quality Policy

NED University of Engineering and Technology believes in establishing environment conducive to continual improvement its efforts for providing the highest-level quality education.

The University is making all out efforts to raise its standards through teaching excellence and quality research. These efforts are carried out with involvement of the entire university work force – to obtain utmost possible satisfaction of its customer.

Our endeavors are to make our students useful to the society in particular and to humanity in general. In dealings with industry and utilities, attempts are made to maintain standards of integrity as well as quality.



# MESSAGE FROM THE VICE CHANCELLOR

DR SAROSH HASHMAT LODI

This year will be remembered in history as the one which changed the world forever. COVID-19 pandemic has impacted everything from social, religious, economic, health and education all over the globe. Survival depends on how we can capitalize on our strengths, and act quickly to transform to the needs of the hour. As 2019-20 comes to an end, we are presenting you with this report to disseminate our journey of the last one year. I am confident you will find reflection of the efforts and achievements reminiscent of a leading institution discharging its duty of enabling the nation to progress and prosper; and face challenges through knowledge, skill and determination.

We continue to benchmark ourselves through various indicators including World Rankings. Like previous years, this year too we featured in Times Higher Education World Impact Rankings 2020 – ranking in top 400 universities of the world. NED University featured in eleven of the seventeen SDGs, ranking at 66th in Climate Action, top 200 in Responsible Consumption and Production, and Partnership for Goals and top 300 in Quality Education – to mention a few. Also, we were ranked in top 400 universities in QS Asian University Rankings 2020. Specifically, NED University has been placed at 140<sup>th</sup> rank in the employer reputation category.

The University is offering a total of ninety-three (93) programmes through six faculties (06) and twenty-six (26) departments. There are eighteen (18) PhD, forty-seven (47) Masters and twenty-eight (28) undergraduate programmes on offer, in which 11,915 students are enrolled. It is worth mentioning that 38% of the University population is female which is an encouraging indicator for an Engineering University. We are pleased that a total of 3,096 students graduated, while admissions were awarded to 3,533 students. This year the University awarded PhD degrees to thirteen (13) scholars – a special mention as this was the first time that we entered a double figure. At NED University, we give prime importance to students' facilitation and see that no student is deprived of higher education due to financial difficulties. This year a total of 1,469 scholarships and fellowships were awarded worth over Rs. 66 million. Ten students proceeded on International Students Exchange Programmes to Turkey, China and USA this year. A total of 3,216 Internships were availed with 32 Study tours and 272 employment related activities. Community Service being a mandatory undertaking saw over 2000 students spent about forty hours each in various activities. Similarly, more than twenty Chinese faculty are engaged in teaching HSK levels I and II courses to our undergraduate students. Our students remained active in extracurricular activities and sports as well. They represented NED University in various events and competitions and won several prizes. It is worth mentioning that this year's performance of our students in Photography, Debating and Declamation Contests have been outstanding.

The University core activities are primarily driven by our faculty which continues to strengthen both in numbers as well in qualifications. This year sixteen faculty members joined us after completing their PhD studies taking the total count of PhD faculty to 199. The total number of faculty members has now reached 539. It is a matter for



our pride that the faculty members in addition to instruction, are also heavily engaged in research and outreach activities. One of the novel initiatives this year is faculty placements within industry. About a dozen faculty members spent four weeks plus time in various organizations as catalyst action for industrial-academia linkage. This year six international conferences were held at NED University. All conferences attracted national and international dignitaries and expanded in niche areas of research but worth mentioning is the Conference on Women – Perspectives on Women development, which brought together several women achievers and generated a lot of intellectual value on the subject. We are pleased to share that there are now 150 on-going research projects at the University worth more than Rs. 830 Million – a sign of confidence among funding agencies about the quality of research being carried out at NED. There are 99 research staff working on these projects. This year, more than fifty faculty members proceeded abroad on staff mobility and conference travels. 400+ research papers were published, out of which 224 were WoS indexed. NED University continues to publish three high quality research journals, including NED University Research Journal which is HEC recognized in 'X' category. The number of research centres has risen to twenty-three (23) with four new additions this year which include Advance Traffic Lab for Analytics and Simulation (ATLAS), Centre for Smart Grid Studies, Centre for Affordable Housing and Sustainable Built Environment and Centre for Advanced Studies in Renewable Energy (ASURE). Several faculty members have been engaged in conferences, public service, international mobility, representation on statutory forums of various universities.

Quality Assurance at NED University continues to ensure that all systems are properly placed and implemented through appropriate monitoring, control and review mechanisms. QEC is also involved in capacity building of our human resource through various in-house training programmes. Quality Cells are also established and functioning at all affiliated institutions. NED University is also proud of its IT infrastructure, consisting of various Management Information Systems, Smart University and PERN connectivity, VPN and Digital Library Access. With over 700 Mbps bandwidth, and state of the art LMS tools, we consider ourselves rightly placed to expand online learning to our students. NED Academy has been leading continuous professional capacity building for the last two decades. This year too, it continued to excel with facilitating more than 2,566 trainees from more than sixty institutions offering a wide range of development opportunities. Similarly, the Office of Research, Innovation and Commercialization (ORIC) has been instrumental in keeping track of research calls, facilitating grant write ups and submissions. National Incubation Centre, Karachi continues to host technology startups and carry out capacity building in the technology entrepreneurship domain. Several startups have graduated from the centre in the last year.

The University enjoys a healthy alumni engagement. Associations around the world continued to launch several supporting initiatives for the betterment of this University including scholarships. NED Alumni Association of Southern California funded final year projects, research and awards including best papers and best teachers. NED International Alumni Association hosted an International Convention in the last week of December which was very well attended by both national and international alumni. The convention brought in several development pledges for the University including a smart classroom, daycare centre, Chair for the Water institute, renovation of the city campus to name a few.

Commencement of classes at the Thar Institute of Engineering, Science and Technology (TIEST), a constituent college of NED University in October 2019 is a historic feature for the region and the country. It is the first home of higher education learning in Tharparkar District, having announced only in April 2019 underwent a series of rapid stages from conceptualization to commencement in six months with tremendous support of the Government of Sindh, and dedicated and untiring efforts of the NED University faculty and staff.

COVID-19 pandemic has practically upended human life. Since February 26<sup>th</sup>, we also shut down physically to hold the disease spread but continued to interact virtually to ensure the academic activities including instruction, assessment and admissions could be conducted in an appropriate and safe manner. We moved to hybrid learning mode, with Spring Semester 2020 starting 1<sup>st</sup> June 2020 for undergraduate and Masters classes starting soon. We are hopeful that we will be able to initiate our next academic session without impacting the pre-COVID calendar. During the pandemic, NED University continued to provide support to government, institutions, and hospitals. One of the highlights in this regard is the development of “NED Ventilator” by Haptics Lab, National Centre of Robotics and Automation.

The report provides a detailed account of this year's happenings and achievements – beyond doubt a culmination of brilliance of our students and untiring efforts of our faculty and staff. We move into 2020-21, NED University's Centennial year, with prayers that may Allah Taala give us strength and courage to exit the COVID-19 challenges soon and enable us to continue the hard work with professionalism and sincerity. We are thankful to Allah Taala for what we have achieved, and we pray for His continued guidance and support in our endeavours. Ameen.

# Contents



**06**

**University Ranking**



**08**

**ACADEMICS**

**10** Academic Programmes



**16**

**FACULTY**

**18** Faculty Members  
**20** Faculty Services  
**22** Public Service  
**23** Representation on Statutory forums  
**24** Faculty Awards



**26**

**RESEARCH**

**28** Research Centres  
**30** Research Grants  
**31** Patents  
**32** Conferences  
**33** Research Journals



**34**

**STUDENTS**

**37** 28th Convocation 2020  
**38** Scholarships and Financial Assistance  
**39** Student Mobility  
**40** Community Service  
**41** Students Achievements and Awards  
**42** Co-Curricular and Extra-Curricular Activities  
**44** Sports Achievements and Awards  
**47** Industrial Experiences



**48**

**ENGR. ABUL KALAM LIBRARY**



**50**

**QUALITY ASSURANCE**



**54**

**INFORMATION TECHNOLOGY**



**58**

**NED ACADEMY**



**61**

**OFFICE OF RESEARCH,  
INNOVATION AND  
COMMERCIALIZATION**



**70**

**UNIVERSITY SOCIAL  
RESPONSIBILITY**



**80**

**UNIVERSITY  
FINANCES  
AND KPIs**



**62**

**NATIONAL INCUBATION  
CENTRE, KARACHI**



**74**

**FEATURE  
ACHIEVEMENT**

- 81** Development Projects
- 81** NED University Funds
- 83** Cost Per Student
- 82** Final Demand Estimates
- 83** Key Indicators



**64**

**OUTREACH AND  
NETWORKING**

- 75** Faculty Industrial Placements
- 76** Thar Institute of Engineering, Science and Technology
- 78** Development of Sports Facilities
- 78** Development of Students Cafeteria
- 78** COVID-19 Response

- 65** UAFA and Alumni Engagement
- 66** NED International Alumni Convention
- 67** Institutional Linkages
- 68** Prominent National and International Delegates

# University Ranking

## • Times World Impact Rankings 2020



### Times World Impact Ranking 2020

301-400

**SDG 13**

Climate Action

66

**SDG 12**

Responsible Consumption and Production

101-200

**SDG 17**

Partnership for the Goals

101-200

**SDG 4**

Quality Education

201-300

**SDG 9**

Industry Innovation and Infrastructure

201-300

**SDG 5**

Gender Equality

301-400

**SDG 8**

Decent Work and Economic Growth

301-400

**SDG 11**

Sustainable Cities and Communities

301-400

NED University featured in 11 of the 17 SDGs in World 2020 Rankings



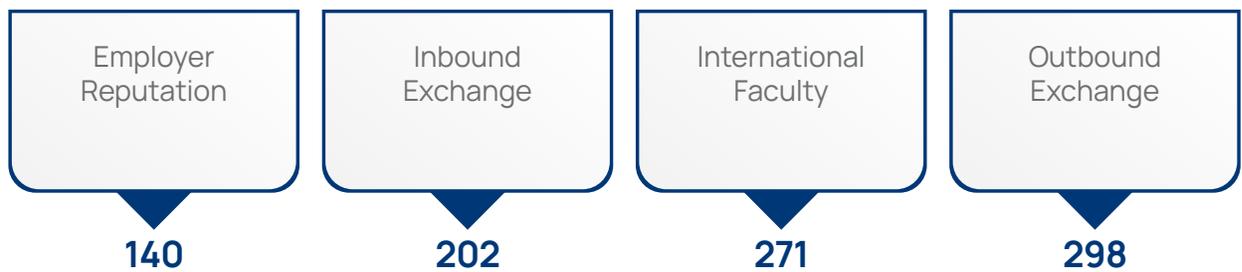
• QS Asian Rankings 2020



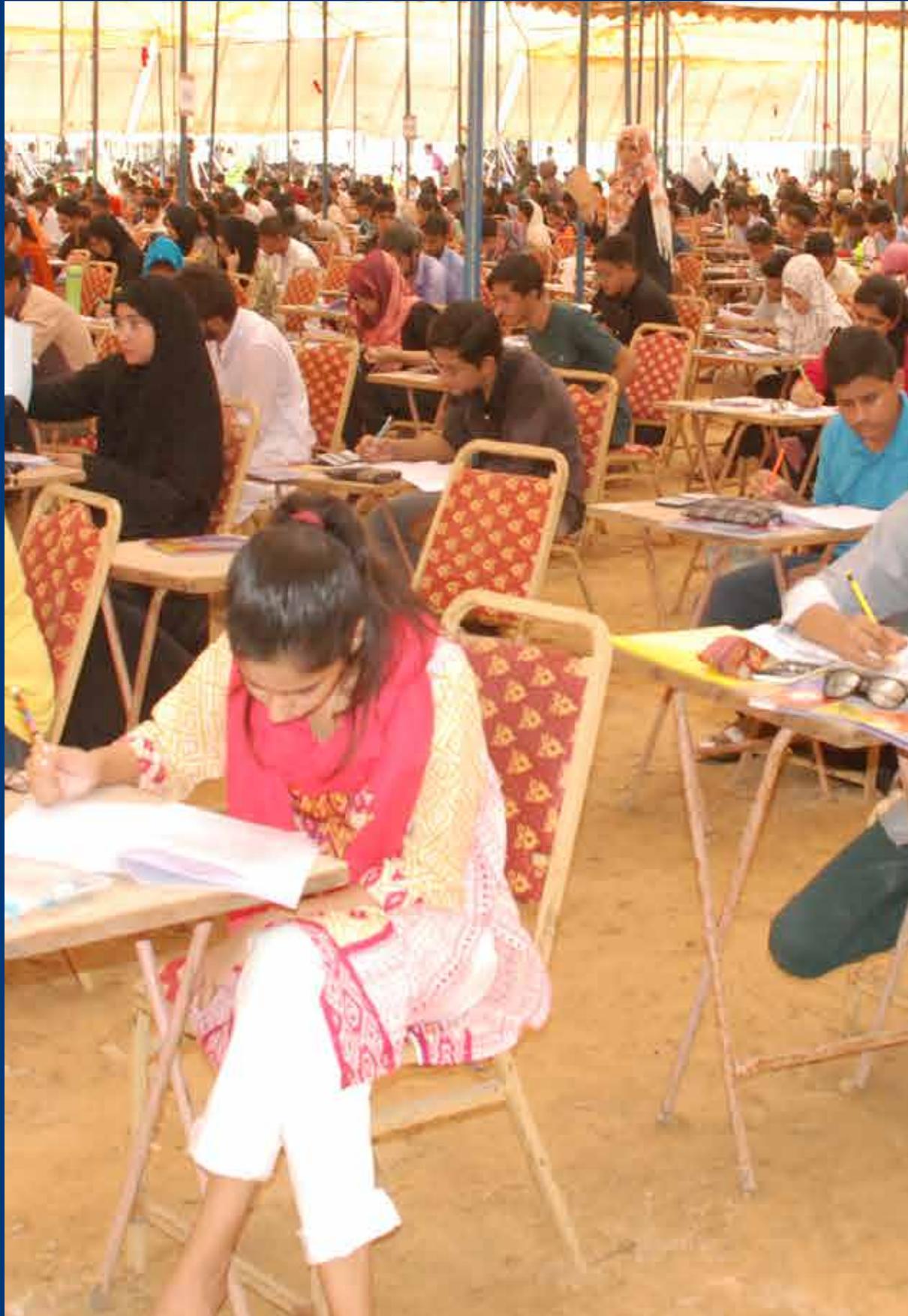
QS Asian Rankings 2020

351-400

Top 2.5% among 12,000+ Universities in Asia



# Academics





06

Number of  
Faculties

Number of  
Departments

26



18

Number of  
BE Programmes

Number of  
BS Programmes

09



01

Number of B Arch  
Programmes

Number of M. Engg.  
Programmes

25



10

Number of  
MS Programmes

Number of MEM  
Programmes

10



01

Number of M. Arch  
Programmes

Number of MURP  
Programmes

01



18

Number of PhD  
Programmes

Number of OBE  
Accredited  
Programmes

13



21

Number of total  
accredited  
programmes

# Academic Programmes

NED University has 26 teaching departments from six faculties, offering 28 undergraduate, 47 masters and 18 Ph.D. programmes – thus a total of 93 programmes are currently being offered.

NED University has decided to transform all undergraduate engineering programmes on outcome-based education (OBE). Thirteen undergraduate programmes have already obtained OBE-based accreditation from Pakistan Engineering Council (PEC) and the accreditation for all other engineering programmes is in process.

OBE Programmes

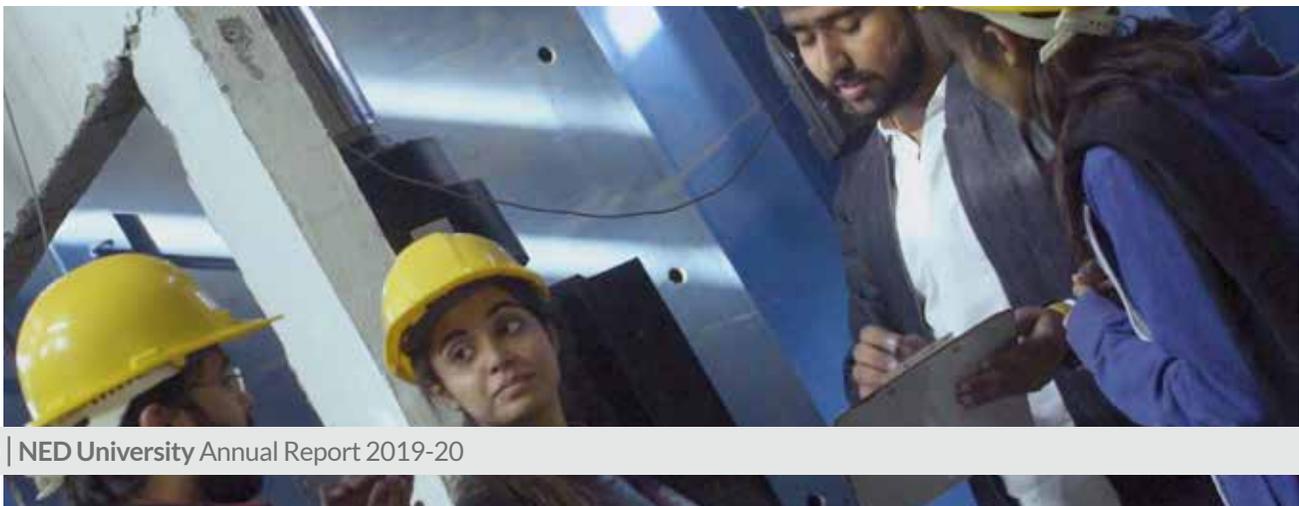


The details of faculty wide departments and the programmes offered are as follows:

## FACULTY OF CIVIL AND PETROLEUM ENGINEERING

The Faculty has a history of contributions to the scientific knowledge as well as provision of professional answers to various issues related to build infrastructures. The faculty strives to produce professionals for providing leadership in their respective areas.

Department	Undergraduate	Masters	Ph.D.
Civil Engineering	B.E.- Civil Engineering B.E.-Civil (specialization in Construction Engineering)	M. Engg. Structural Engineering M. Engg. Geo-Tech Engineering M. Engg. Transportation Engineering M. Engg. Coastal & Water Resources Engineering MEM Construction Management	Yes
Urban & Infrastructure Engineering	B.E.- Urban Engineering	MEM Transportation Infrastructure Management	Yes
Petroleum Engineering	B.E.- Petroleum Engineering	M. Engg. Petroleum Engineering	---
Earthquake Engineering	---	M. Engg. Structural Earthquake Engineering	Yes



## FACULTY OF MECHANICAL AND MANUFACTURING ENGINEERING

The Faculty offers cutting edge and industry-oriented degree programmes. The Faculty have sustained strong industrial linkages through planned and focused initiatives. Efforts are made to inculcate leadership qualities in graduates along with making them technically sound.

Department	Undergraduate	Masters	Ph.D.
Mechanical Engineering	B.E.- Mechanical Engineering	M. Engg. Design M. Engg. Energy Systems M. Engg. Mechatronics M. Engg. Renewable Energy MEM Energy and Plant Management	Yes
Textile Engineering	B.E.- Textile Engineering BS- Textile Sciences	MEM Textile Management MS Textile Management	Yes
Industrial and Manufacturing Engineering	B.E.- Industrial and Manufacturing Engineering	M. Engg. Manufacturing Engineering MEM Industrial Management MEM Quality Management MEM Supply Chain Management	---
Automotive and Marine Engineering	B.E.- Automotive Engineering	---	---

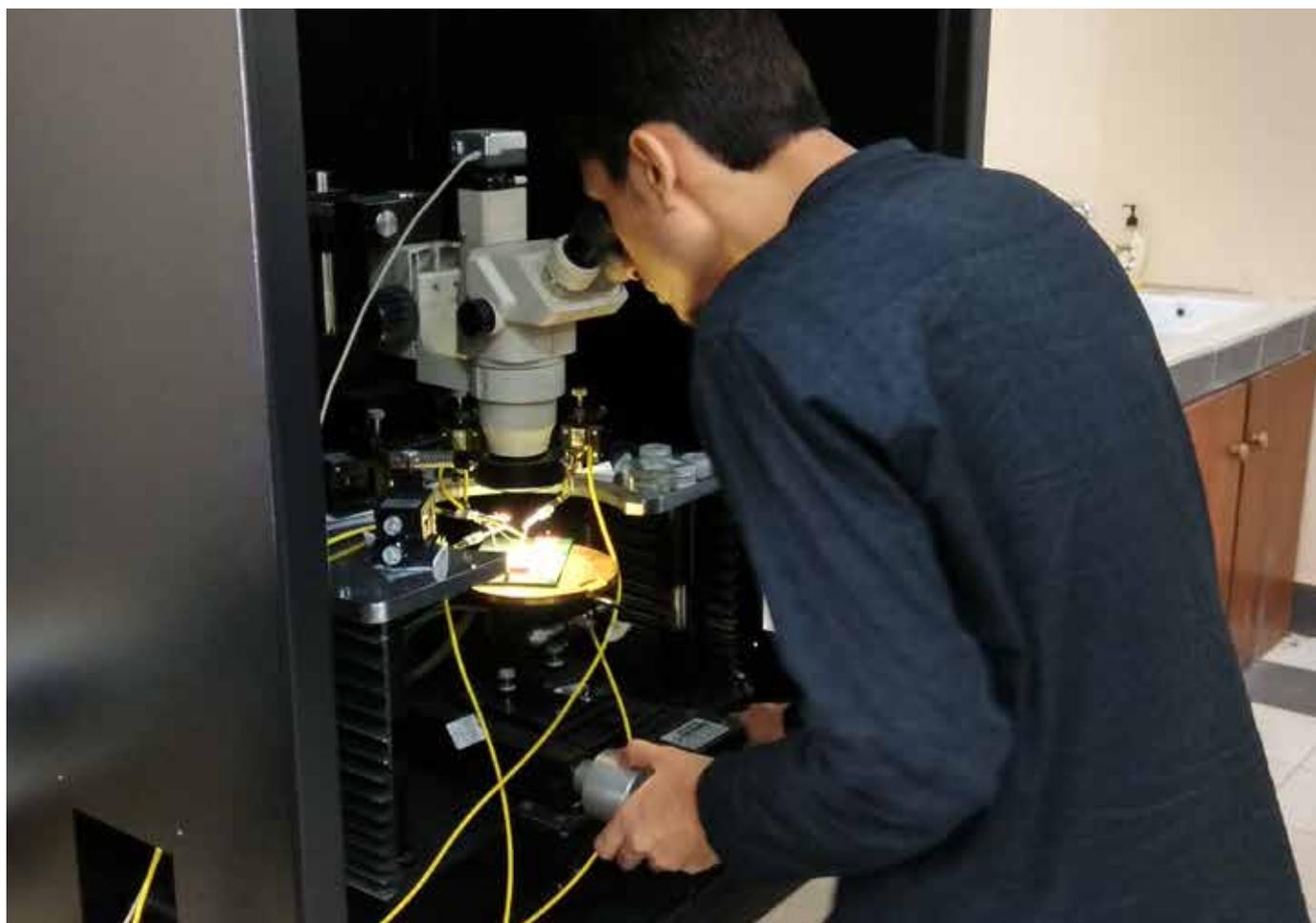


# Academic Programmes

## FACULTY OF ELECTRICAL AND COMPUTER ENGINEERING

The Faculty is privileged to host state of the art laboratories under four National Centres. In addition to core teaching responsibilities, the Faculty is heavily involved in industrial design, repair and consultancy services through its Instrumentation Centre, Centre for Smartgrid Studies and Electronic Design Centre.

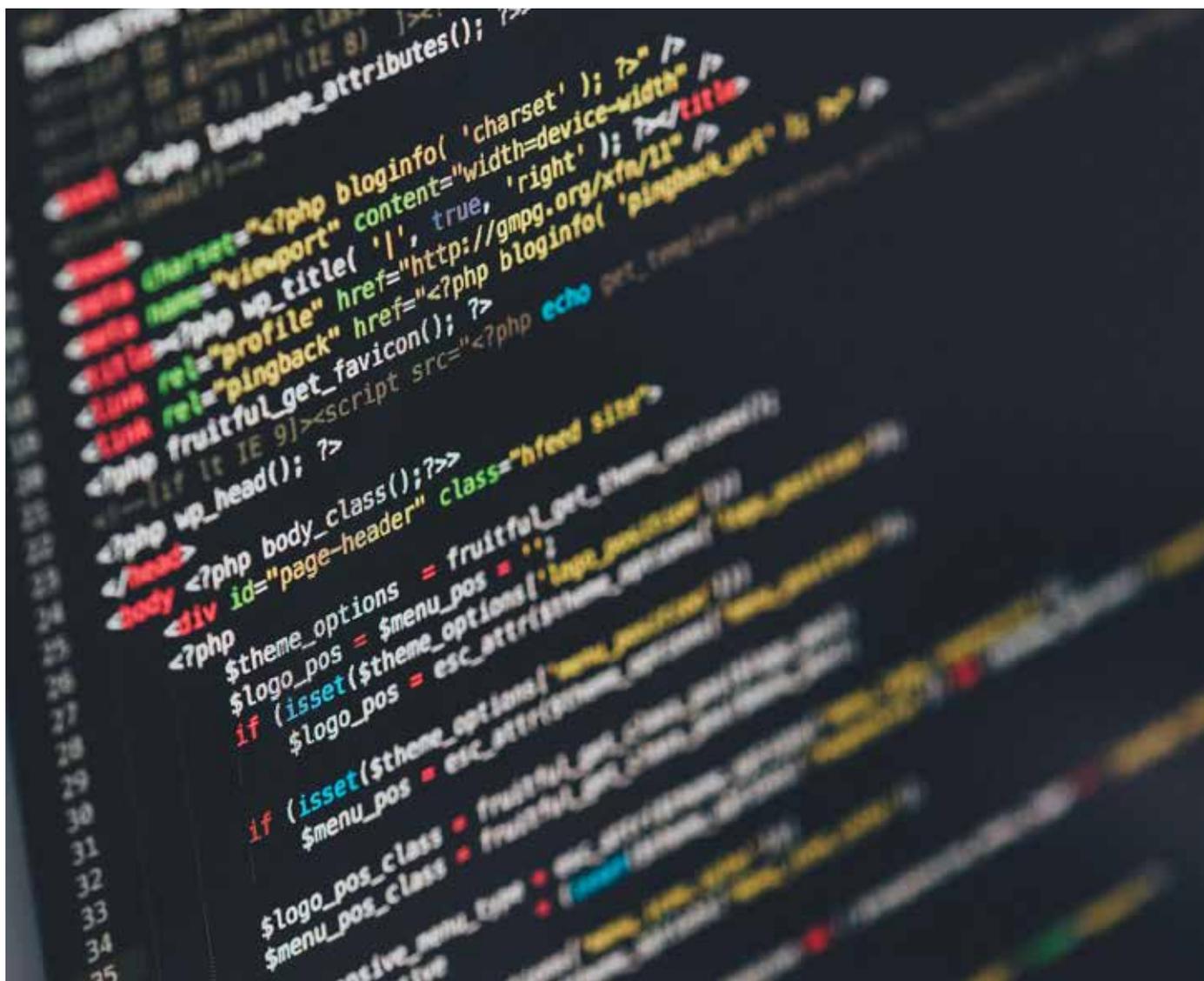
Department	Undergraduate	Masters	Ph.D.
Electrical Engineering	B.E. - Electrical Engineering	M. Engg. Electrical Power Systems M. Engg. Smart Grid MEM Energy Management	Yes
Computer and Information Systems Engineering	B.E. - Computer Systems	M. Engg. Computer Architecture & Systems Design M. Engg. Computer Network & System Security MS Data Engineering and Information Management	Yes
Electronic Engineering	B.E. - Electronics B.E. - Telecommunication	M. Engg. Micro System Design M. Engg. Industrial Electronics M. Engg. Telecommunications Engineering MS Telecommunications Systems	Yes
Biomedical Engineering	B.E. - Biomedical Engineering	M. Engg. Bio-Medical Engineering	Yes



## FACULTY OF INFORMATION SCIENCES AND HUMANITIES

The Faculty offers most of the non-Engineering programmes at the University except Software Engineering. These programmes offer outstanding avenues of knowledge and career prospects. Research, outreach and networking articles are also significant and visible.

Department	Undergraduate	Masters	Ph.D.
Software Engineering	B.E.- Software Engineering	---	---
Computer Science & Information Technology	B.S.- Computer Science & Information Technology	MS Computer Science & Information Technology MS Information Security	Yes
Mathematics	B.S.- Computational Finance	MS Applied Mathematics	Yes
Physics	B.S.- Applied Physics	MS Physics	---
Chemistry	B.S.- Industrial Chemistry	MS Industrial Chemistry	Yes
Humanities	B.S.- English Linguistics	MS Applied Linguistics	Yes



# Academic Programmes

## FACULTY OF CHEMICAL AND PROCESS ENGINEERING

This is relatively a newly established Faculty but equally expansive in its scope. The dedication of faculty and staff have helped achieving remarkable success in making their impression with academic excellence and professional preparation of their students.

Department	Undergraduate	Masters	Ph.D.
Chemical Engineering	B.E. - Chemical Engineering	M. Engg. Chemical Engineering MEM Chemical & Process Management	Yes
Materials Engineering	B.E. - Materials Engineering	M. Engg. Materials Engineerin	Yes
Metallurgical Engineering	B.E.- Metallurgical Engineering	---	---
Polymer and Petrochemical Engineering	B.E. - Polymer & Petrochemical Engineering	M. Engg. Polymer Engineering	---
Food Engineering	B.E.- Food Engineering	---	---
Environmental Engineering	---	M. Engg. Environmental Engineering MEM Environmental Management	Yes



## FACULTY OF ARCHITECTURE AND MANAGEMENT SCIENCES

The Faculty offers undergraduate and postgraduate programmes and actively engaged in research focusing on heritage conservation, urban development, regional planning and applied economics.

Department	Undergraduate	Masters	Ph.D.
Architecture and Planning	B. Architecture B.S.- Development Studies	Master of Urban & Regional Planning M. Arch. Architecture	Yes
Economics and Management Sciences	B.S.- Economics & Finance B.S.-Management Sciences	MS Economics and Finance	---



# Faculty





**539**

Total faculty members

Professors

**32**

**56**

Associate Professors

Assistant Professors

**241**

**210**

Lecturers

International faculty

**27**

**99**

Research Staff

PhD Faculty

**199**

**125**

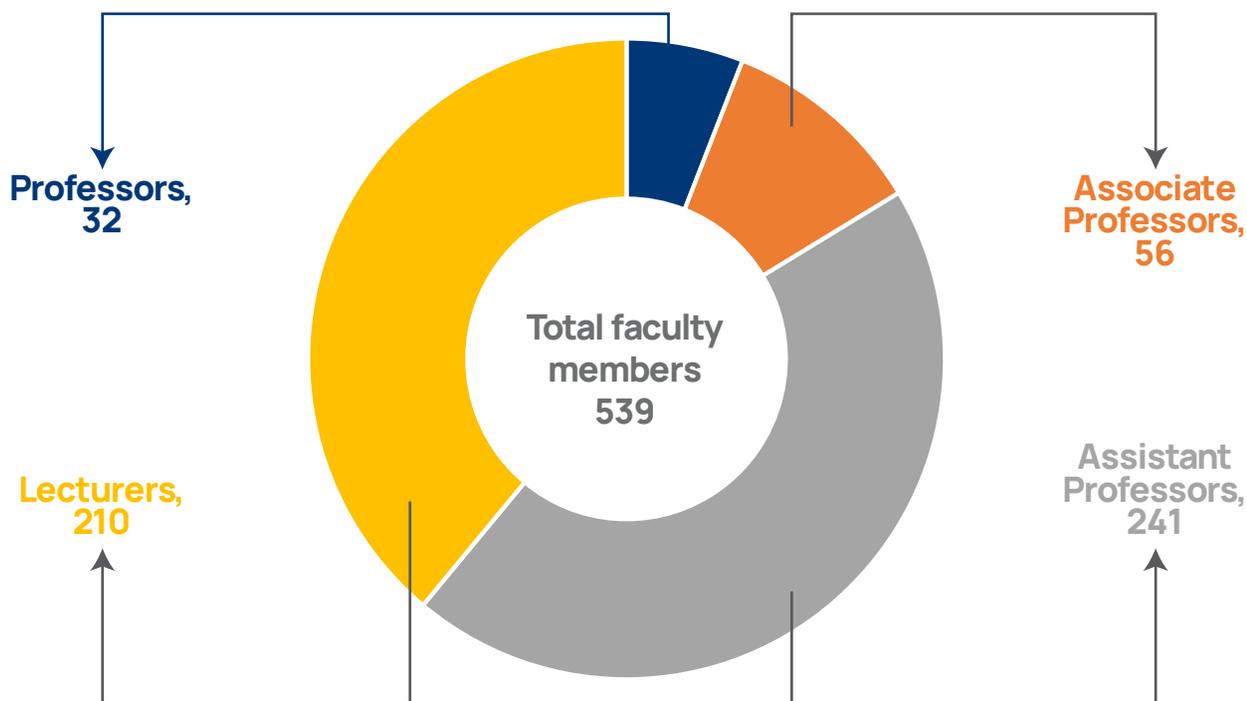
Number of PhD enrolled faculty

Number of PhD addition this year

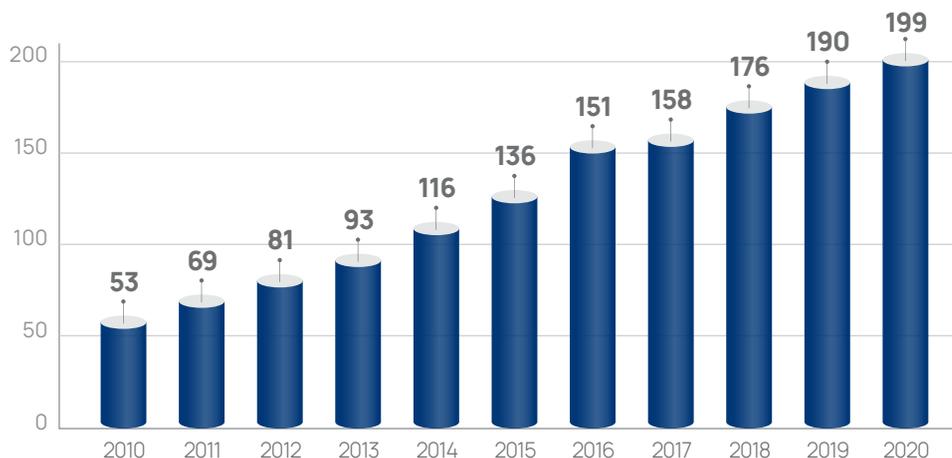
**16**

# Faculty Members

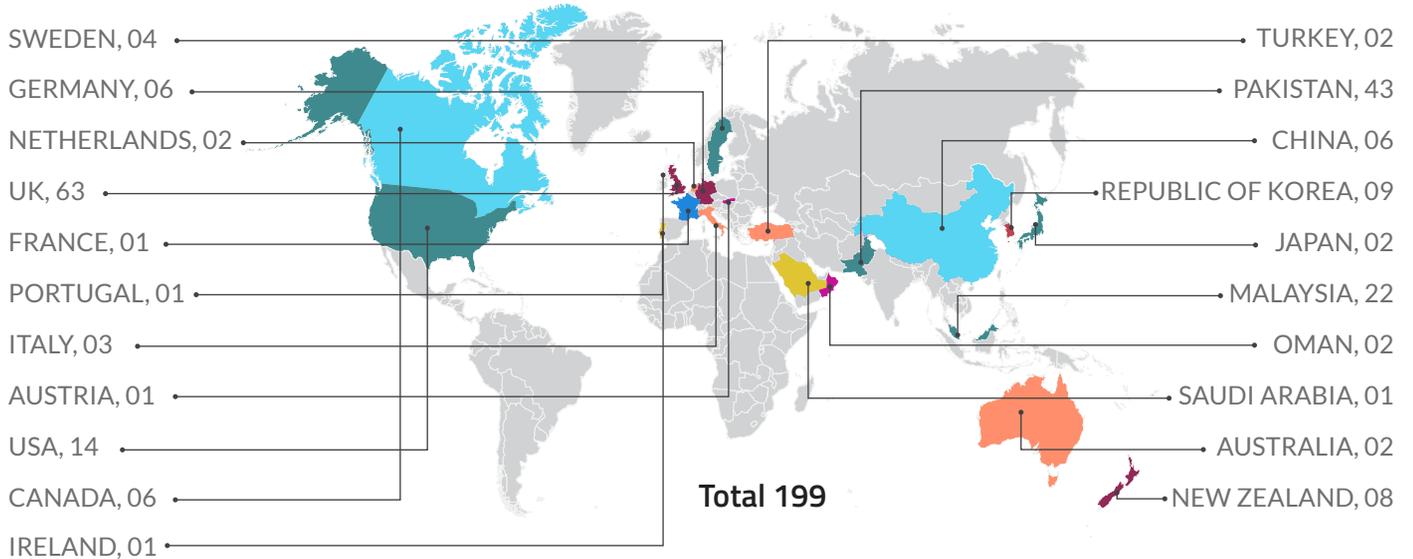
There are a total of 539 faculty members at NED University, out of which 199 (37%) are PhD holders. In addition to the local faculty members NED University hosts 27 International faculty members, most of whom are native Chinese teachers undertaking teaching requirements for the Chinese Language Programme. The designation wise break up of Faculty is as follows:



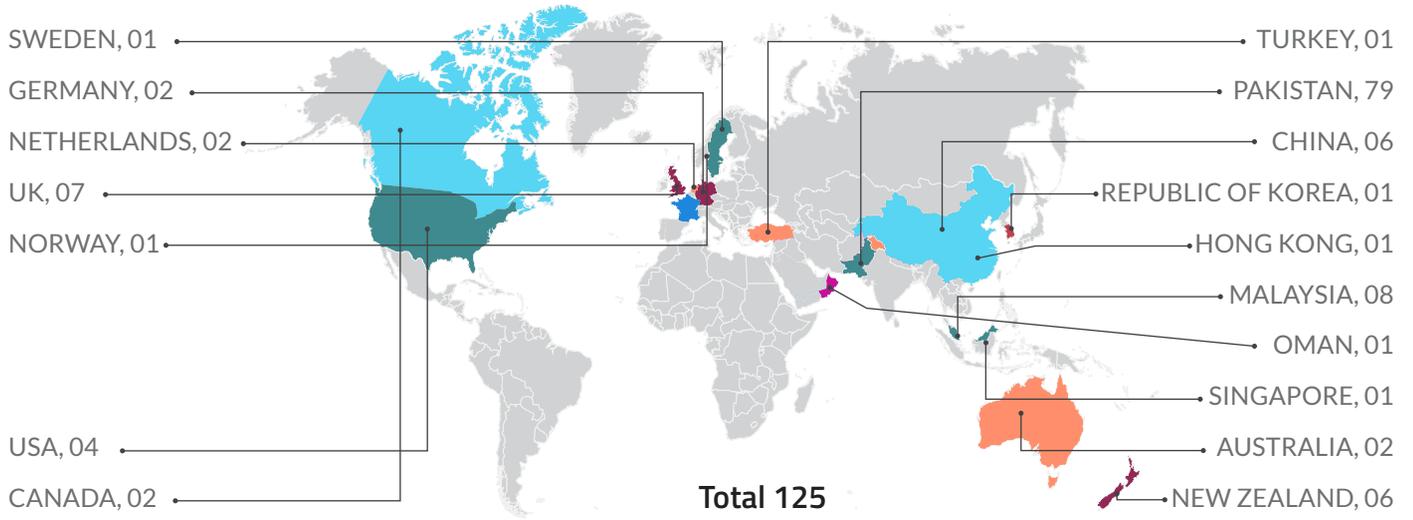
The number of PhD qualified faculty over the years is shown in the chart below:



## • PhD Faculty - Country wise



## • PhD Enrolled Faculty – Country Wise



# Faculty Services



As Editor/Associate Editor in Journals

**14 Journals**

As Member of Advisory Board/Editorial board of research journals

**25+ in 22 Journals**

As Reviewer of Research Journals

**225+ in 40 Journals**

As Conference Convener / Chair / Secretary

**25+**

As Reviewer of Technical Conferences

**110+ in over 25 Conferences, 12 countries**

As Session Chairs/Moderators

**60+ in over 20 Events**

As member of other Universities Statutory forums

**90+**

As member of National/International Committee/Boards/Think Tanks

**120+**



# Public Service

Faculty members of NED University have been actively involved with various institutions and organizations assisting through their expertise. Some of the salient representations are as follows:

	Prime Minister's Inquiry Commission Government of Pakistan		Consulate General of Japan in Karachi		Sindh Police
	Supreme Court of Pakistan		IMechE, UK		Sindh Higher Education Commission
	Ministry of IT and Telecom, Government of Pakistan		UNESCO IOC		Charter Inspection and Evaluation Committee (CIEC), Sindh
	Federal Public Service Commission		Pakistan Science Foundation		Planning Department, Government of Sindh
	Higher Education Commission		Government of Sindh		District Management Services, Karachi
	Digital Pakistan, Ministry of IT and Telecom		Irrigation Department, Government of Sindh		Institutions of Engineers Pakistan, Karachi Center
	Pakistan Standards and Quality Control Authority		Department of Culture, Government of Sindh		Karachi Chamber of Commerce & Industry
	Pakistan Engineering Council		Urban Planning Unit, Government of Sindh		Office of the Commissioner, Karachi
	World Bank		Sindh Public Service Commission		Board of Secondary Education, Karachi
	Microsoft		Sindh High Court		Sindh Board of Technical Education

# Representation on University Statutory Forums

Faculty members from NED University have representations on Statutory forum of various Universities. Some of them are listed here:

Balochistan University of IT, Engineering and Management Sciences, Quetta		Mehran University of Engineering and Technology, Jamshoro		Applied Economics Research Centre (AERC)	
Institute of Business Administration (IBA)		City University		Mir Chakar Khan Rind University	
Karachi School of Business Leadership		Sir Syed University of Engineering and Technology		Quaid-e-Awam University, Nawabshah	
National University of Computing Engineering, FAST		Dawood University of Engineering and Technology		Sindh Madressatul Islam University	
Khwaja Fareed University of Engineering & Information Technology (KFUEIT), Rahim Yar Khan		DHA Suffa University		Pakistan Marine Academy	
Jinnah University for Women		Federal Urdu University		Government College of Technology, Karachi	
National Textile University		Usman Institute of Technology		Textile Institute of Pakistan	
National Skills University		Hamdard University		Institute of Industrial Electronics Engineering (IIEE)	
Dow University of Health Sciences		Muhammad Ali Jinnah University		Indus University	
University of Engineering and Technology, Khuzdar		Barrett Hodgson University		Institute of Business Management (IoBM)	
Indus Valley School of Art and Architecture		Ziauddin University		Nazeer Hussain University	

# Faculty Awards

## THE LIST HIGHLIGHTS SOME OF THE FACULTY AWARDS FROM THE YEAR 2019-20:

Name	Department	Award Title	Awarding Organization
Abdul Ghaffar	Environmental Engineering	Outstanding Ph.D. graduate award	Tsinghua University, China
Afzal Ahmed	Urban and Infrastructure	Best Researcher Award	NEDAASC
Syed Murtuza Mehdi	Mechanical Engineering	Best Publication Award	NEDAASC
Syeda Sariya Bukhary	Civil Engineering	Editor's Choice Article Award	Journal "Water" Switzerland
Muhammad Sohail	Materials Engineering	Best Research Paper Award	NEDAASC
Mirza Mahmood Baig	Mathematics	Best Publication Award	NEDAASC
Muhammad Fahad	Industrial and Manufacturing	Best Publication Award	NEDAASC
Muhammad Uzair	Mechanical Engineering	Best Publication Award	NEDAASC
Raheela Asif	Software Engineering	Best Publication Award	NEDAASC
Rizwan Aslam Butt	Electronic Engineering	Best Publication Award	NEDAASC
Syed Ali Ammar Taqvi	Chemical Engineering	GA Merit Award for Outstanding paper publications	Universiti Teknologi PETRONAS, Malaysia
Fayaz Hussain	Materials Engineering	International Conference Travel Award	NED University



Name	Department	Award Title	Awarding Organization
Muhammad Farooq Siddiqui	Electrical Engineering	Best Teacher Award	NEDAASC
Mahrukh	Mechanical Engineering	Best Publication Award	NEDAASC
Maria Waqas	Computer Systems Engineering	Best Publication Award	NEDAASC
Muhammad Dawood Husain	Textile Engineering	Best Publication Award	NEDAASC
Muhammad Hammad Uddin	Electrical Engineering	Conference Travel Grant Award	Fulbright Association
Muhammad Mubashir Khan	CSIT	Best Teacher Award	NEDAASC
Muhammad Owais Raza Siddiqui	Textile Engineering	Best Teacher Award	NEDAASC
Muhammad Owais Raza Siddiqui	Textile Engineering	Best Publication Award	NEDAASC
Najeed Ahmed Khan	CSIT	Best Publication Award	NEDAASC
Sajida Zaki	Humanities	Best Teacher Award	NEDAASC
Tariq Jamil	Mechanical Engineering	Article featured on Journal Cover	Royal Society of Chemistry, UK
Maaz Akhter	Mechanical Engineering	Best Publication Award	NEDAASC



# Research





**23**

Research  
Centers

On going  
Projects

**150**

Rs. **833** Million Research  
Funding

Research  
Publications

**400+**

**224**

JCR indexed  
Publications

International  
Staff Mobility

**54**  
in 21 countries

**Six**

International  
Conferences held

# Research Centres

This year four new Research Centres were added taking the total count to twenty-three. The new additions are:

- **ADVANCED TRAFFIC LAB FOR ANALYTICS AND SIMULATION (ATLAS)**

Pakistan needs to catch up in use of technology for operations of transportation systems and traffic management. Pakistan is on its way in improving its transportation infrastructure, therefore a well-developed traffic operational plan is essential to make the infrastructure, efficient, economical and sustainable. This research center is a pioneer in Pakistan in developing suitable traffic flow models, real-time measurement system, smart (adaptive) traffic controls and ITS for mass transit system in different cities of Pakistan.

- **CENTRE FOR SMART GRID STUDIES**

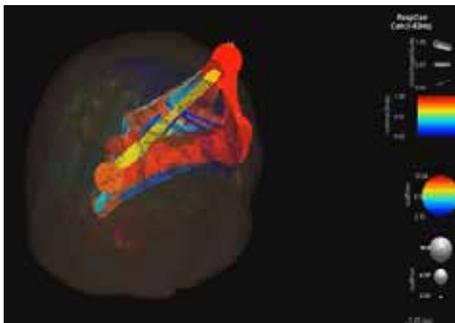
A smart grid system is a self-sufficient electricity network system based on digital automation technology for monitoring, control, and analysis. It helps utilities conserve energy, reduce costs, increase reliability and transparency, and make processes more efficient. It also allows for easy integration and reliable service to the consumers. The implementation of smart grid technology in the developed world has allowed prevention of large-scale blackouts, better grid infrastructure planning and energy consumption, generation and delivery and also provide timely and accurate inputs for policy directions. The role of a smart grid study centre is multi-fold. It not only focuses on Human resource development, but also provides the government, industry and utility necessary awareness and guidance needed for absorption of new technologies under an effective regulatory framework.

- **CENTRE FOR AFFORDABLE HOUSING AND SUSTAINABLE BUILT ENVIRONMENT**

In order to move towards creating a capable and viable local construction sector, which is able to respond to the demands of sustainable infrastructure and housing development, through a rational and mutually agreeable strategic process, Center for Affordable Housing & Sustainable Built Environment is established at NED University. This center would help develop strategies that involve all stakeholders to deliver capital-intensive infrastructure as well as energy-efficient and low-cost housing facilities in a sustainable way.

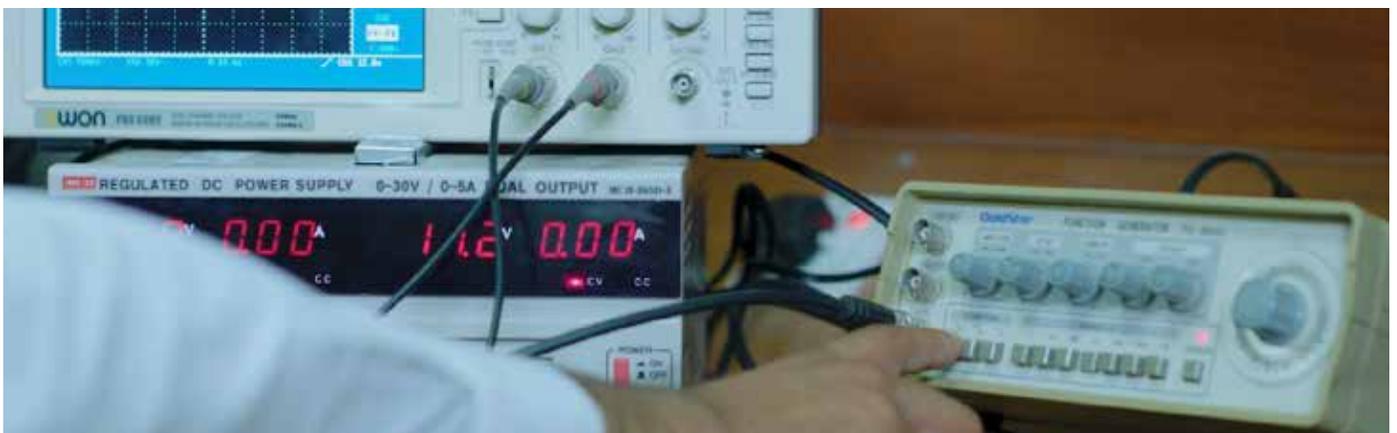
- **CENTRE FOR ADVANCED STUDIES IN RENEWABLE ENERGY (ASURE)**

ASURE centre envisages to essentially cover multifaceted aspects related to alternative energy. They could cover the testing, certification, training and research aspects on a broader scale and take up specific projects of smaller size benefitting a larger populace. On the broader scale the areas which could be taken up are: 1) To provide testing facility related to renewable energy equipment, 2) To issue certificates and compliance report to the consignee, 3) To create awareness session related to renewable energy to the local industries and residential consumer, 4) Act as a long-term node to ensure the continuity of efforts on sustainable basis, 5) To bridge the gap between academia and industry through research, consultation and providing customized smart energy solutions.



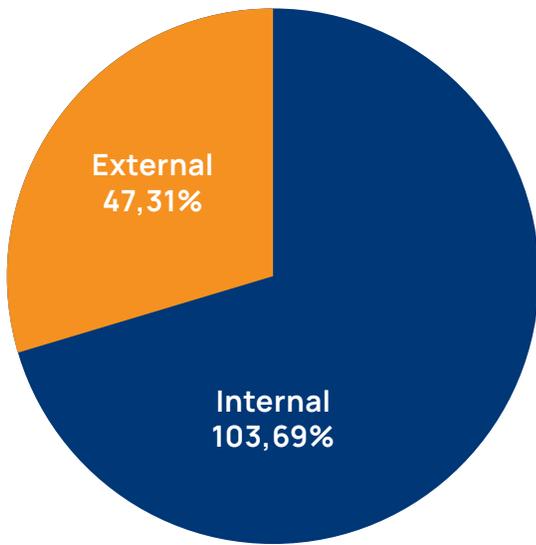
## Other Research Centres working at the University are:

- Norwegian Centre for Petroleum Studies
- Advanced Materials Testing Lab
- Panjwani Hisaar Water Institute
- Cowasjee Earthquake Centre
- National Centre for Artificial Intelligence
- National Incubation Centre Karachi
- National Centre for Robotics and Automation
- Instrumentation Centre
- High Performance Computing Centre
- NED University Virtual Reality Centre
- National Centre for Cyber Security
- Electronic Design Centre
- K Electric Lab
- Centre for Software Research and Development (CSRD)
- DICE Energy Centre
- National Centre for Big Data Analytics
- Building Information Modelling Centre
- Product Development Centre
- Heritage Cell (Architecture)

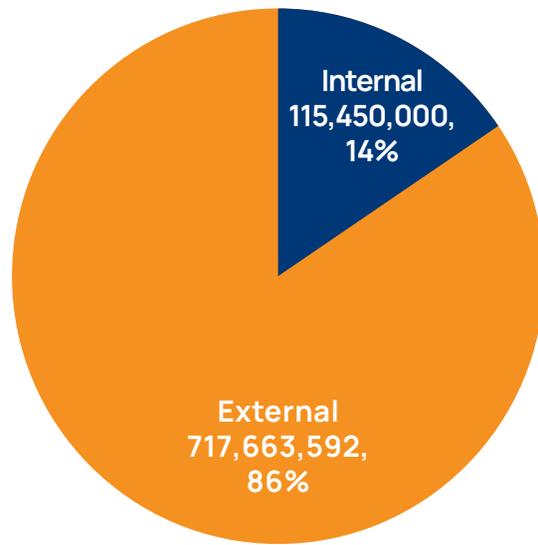


# Research Grants

A total of 150 research projects worth Rs. 833 Million are on-going. 103 projects are internally funded worth Rs. 115.5 Million whereas, 47 are externally funded worth 717 Million. Similarly, Rs. 126 Million funding is international whereas Rs. 707 Million is national funding including HEC TDF, NRPU, SRGP and National Centres etc.

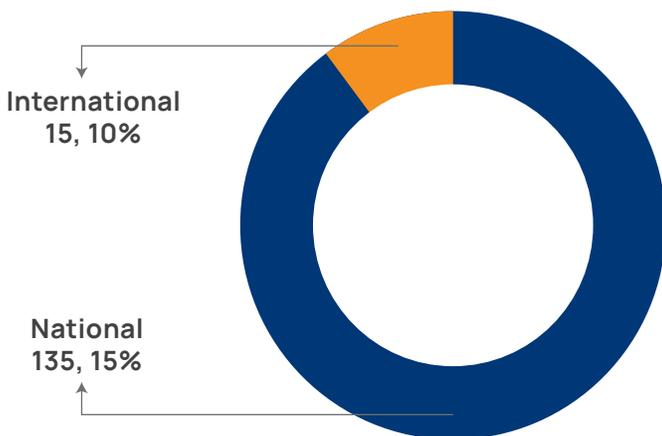


■ Internal ■ External

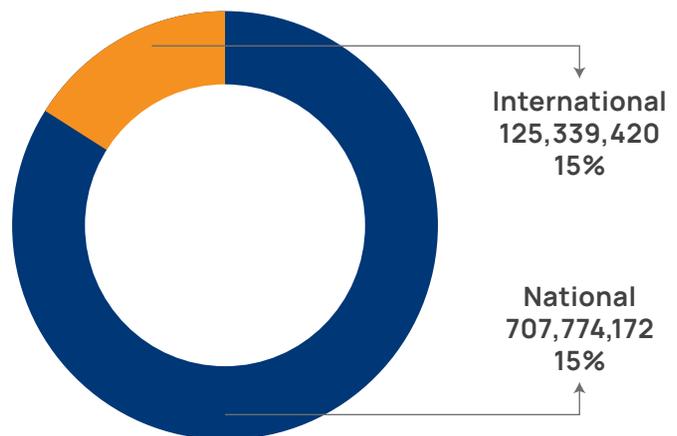


■ Internal ■ External

**Internal vs. External Funded Projects**  
(a) Number of Projects, (b) Amount of Funding



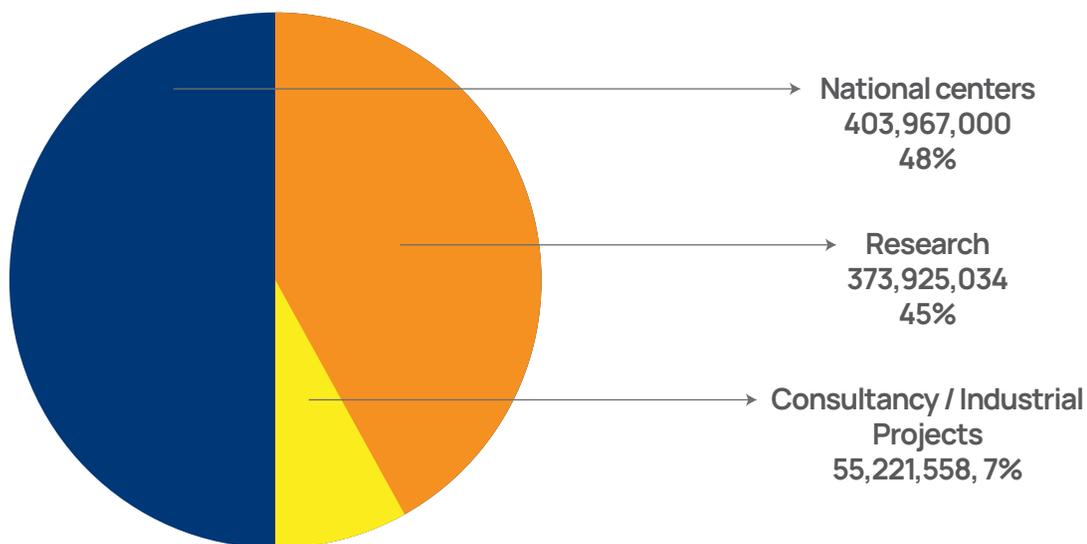
■ National ■ International



■ National ■ International

**National vs. International Funded Projects**  
(a) Number of Projects, (b) Amount of Funding

## Distribution of Funding between National Centres, Research and Consultancy/Industrial Projects



## • Patents

This year three patents were filed

Name	Department	Patent Title	Date of Award	Type
Syed Ali Ammar Taqvi	Chemical Engineering	Multiple Fault Diagnosis in Distillation Column Using Multi kernel Support Vector Machine	15/10/2019	International
Syed Ali Ammar Taqvi	Chemical Engineering	NARX Network FDA: Fault Detection in Distillation Column Using NARX Neural Network	15/10/2019	International
Tariq Rehman	Electronic Engineering	PDMS-Based Dual-Channel Pneumatic Actuator	In process	International

# Conferences

During 2019-20, six conferences were held. Three conferences were postponed due to COVID-19 Pandemic.

- 10th International Mechanical Engineering Conference, April 03-04, 2020 (Postponed due to COVID-19)
- 11th International Civil Engineering Conference (ICEC 2020), March 13-14, 2020 (Postponed due to COVID-19)
- 4th International Conference on Urban and Regional Planning (CURP) – 2020, March 13-14, 2020 (Postponed due to COVID-19)
- 4th NED International Textile Conference 2020, March 02-03, 2020
- DICE Textile 2020, March 02-03, 2020
- 5th International Electrical Engineering Conference (IEEC-2020), February 20 & 21, 2020
- NED-Women Conference 2019: Perspectives on Women Development, December 20-21, 2019
- Global Symposium on Project Management, December 17 & 18, 2019
- 3rd International Conference on Advance Materials & Process Engineering (AMPE-2019), December 11 & 12, 2019



# Research Journals

- **NED University Journal of Research** - Since 2013, the journal is published biannually in two sections, namely Structural Mechanics and Applied Sciences. The primary aim of this journal is to provide an international forum for the dissemination of research and new developments and their applications in engineering and technology. NED University of Journal of Research is an 'X' category HEC recognized journal and indexed by several international indexing services.
- **Journal of Research in Architecture and Planning (JRAP)** – Focusing on research works relevant to the fields of architecture and planning, this journal explores issues of relevance to both scholars and practitioners. JRAP was initiated in 2000 and is a peer reviewed journal published biannually since 2011. The Journal is indexed in 'Y' category.
- **Journal of Social Sciences and Interdisciplinary Research (JSSIR)** is a refereed, bi-annual journal. The journal acts as a forum for social scientists and researchers to investigate and discuss issues confronting societies both local and global. All the submitted manuscripts are multiple peer reviewed. The Journal is indexed in 'Z' category.



# Students





• Applications	Male	Female	Total
Undergraduate Programmes	6,651	3,736 (36%)	10,387
Masters Programmes	1,973	607 (23%)	2,580
PhD Programmes	17	12 (41%)	29
Total Applicants	8,641	4,355 (33%)	12,996

• Admissions	Male	Female	Total
Undergraduate Programmes	1,490	994 (40%)	2,484
Masters Programmes	734	289 (28%)	1,023
PhD Programmes	16	10 (38%)	26
Total Admissions	2,240	1,293 (37%)	3,533

• Enrollment	Male	Female	Total
Undergraduate Programmes	5,602	3,816 (41%)	9,418
Enrollment in TIEST	21	0	21
Masters Programmes	1,686	626 (27%)	2,312
PhD Programmes	109	55 (34%)	164
Total Enrollment	7,418	4,497 (38%)	11,915

• Graduation	Male	Female	Total
Undergraduate Programmes	1,393	842 (38%)	2,235
Masters Programmes	626	224 (26%)	850
PhD Programmes	6	7 (54%)	13
Total Graduation	2,025	1,073 (35%)	3,098

# 28th Convocation 2020

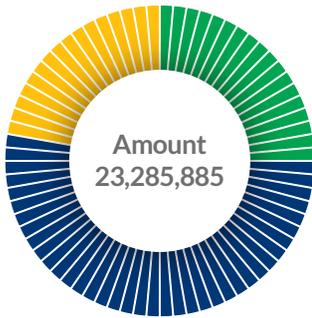
28th Convocation of NED University of Engineering and Technology was held on Saturday, the 7th December 2019. Chief Guest on the occasion was Mr. Shafqat Mahmood, Federal Minister, Education and Professional Training. The convocation was presided over by the Governor Sindh / Chancellor, Mr. Imran Ismail. Guest of Honor was Engr. Jawed Salim Qureshi, Chairman Pakistan Engineering Council.

A total of 2,002 degrees were awarded including 1,826 undergraduate, 163 masters and 13 PhD degrees.



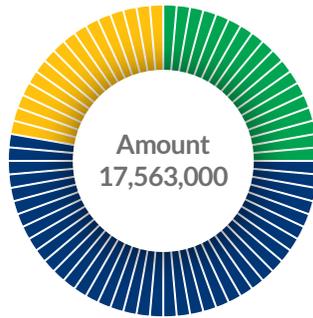
# Scholarships and Financial Assistance

Private Funded\*



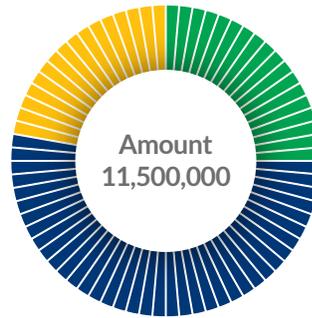
- Male, 258
- Female, 246
- Total, 504

Ehsaas Programme\*



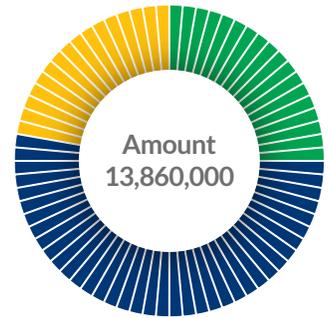
- Male, 180
- Female, 96
- Total, 276

Duty Society



- Male, 499
- Female, 52
- Total, 551

PhD Fellowships



- Total, 138

Total Awardees 1,469 Students

Rs. 66,208,885



\* One Semester only

# Student Mobility

Ten (10) students availed mobility/exchange programmes during this year in countries like China, Turkey and USA.

Name	University visited	Programme attended	City	Country	When
Sabeeh Mohiuddin (CH)		AIESEC	Eskiseher	Turkey	Jul-19
Sabeeh Mohiuddin (CH)	Huawei Space Research Center	Huawei Seeds for Future 2019	Shenzen, Beijing	China	Oct-19
Maha Ali (CT)	Taiyuan University of Technology	Prime Minister Youth Program	Beijing, Taiyuan	China	Nov-19
Bilal Siddiqui (IM)					
Hiba Nuzhat Lodi (Civil)					
Abdul Basit (CT)					
Laiba Masood (EL)	Sichuan Normal University	Chinese Language and Cultural Program	Chengdu	China	Jul-19
Darafshan Batool (EL)	Sichuan Normal University	Chinese Language and Cultural Program	Chengdu	China	Jul-19
Abdul Saboor Ahmed (ME)	University of Minnesota	UGRAD	Minneapolis	USA	Aug-19
Arslan (TC)	University of Massachusetts	SUSI	Amherst	USA	Jul-19



# Community Service

This is one of the hallmark activities of NED University. The basic philosophy is to inculcate within students:

- Sense of social service, owing and contribution to communities around them
- Creating bonding with the population being served by offering help and solution to communities Volunteering engages students with the community, creates special bonds with the population being served
- Increases social awareness and responsibility
- Developing civic and social responsibility skills
- Help to develop interpersonal and leadership skills in students.

Till this year, over 1,800 students of batches 2018 and 2019 of various departments have completed this activity. Some of the organizations with whom these students were engaged are indicated below.



# Students Achievements and Awards

Students of NED University have always remained engaged in various healthy activities and the table below shines light on only a few of the many such events where these bright students outperformed others.

## Positions in Extracurricular Activities 2019-2020

Name	Competition Title	Event Participated	Organizing Body	When	Award Position Won
Areeba Syed (AR)	4th BAE IAP Photography Competition	Photography	Board of Architectural Education	Feb 2020	1st Position
Zammad Shahab (EL)	72nd Independence Day Declamation Competition	Declamation Competition	Pakistan Rangers	Aug-19	Champions Trophy
Areesha Iqbal (SE)	72nd Independence Day Declamation Competition	English Declamation Contest	Pakistan Rangers	Aug-19	Runner Up
Areesha Iqbal (SE)	Shah Jahan Karim Declamation Contest	English Declamation Contest	IoBM	Oct-19	First position
Zammad Shahab (EL)	All Pakistan Declamation Competition	Urdu Declamation Competition	Hayat Girls College, Hyderabad	Nov-19	First position
Muhammad Saad Siddiqui (MT)	Orange - The World Conference	Writing Contest	FFP - Foundation Fighting Poverty	Dec-19	Runner Up
Zammad Shahab (EL)	All Karachi Debate Competition	Debate Competition	Young Democrats Karachi	Dec-19	Fourth position
Yashfeen Mujeeb (BM)	LUMUN	Model United Nations (MUN)	Lahore University of Management Sciences	Jan-20	3rd Best Delegate
Mehak (HS)	Spelling Bee	Group Participants Category	Engro College	Jan-20	Third position
Durreshehwar Zaeem (CH)	Whales MUN	Debating	Whales College	Feb-20	Outstanding Diplomacy Award
Hafiza Kainat Quddusi (EE)	Whales MUN	Delegate of Pakistan	Whales College	Feb-20	Third position
Hamza Khalid (CY)	Debating Competition	English Debate	Karlot Residential College Islamabad	Feb-20	First position
Abdul Ahad (SE)	Whales MUN	Model United Nations	Whales College	Feb-20	First position
Durreshehwar Zaeem (CH)	JSP MUN	Debating	JSP	Mar-20	Best Delegate Award

# Co-Curricular and Extra-Curricular Activities

Controller of Students Affairs in collaboration with various departments continue to organize seminars, competitions, and activities throughout the year to enable students to unearth their extraordinary potential in both co-curricular as well as extra-curricular activities.

Event	Dates	Venue	Organizers
Indus Blood Camp	26th to 27th Jun 2019	NED Premises	Indus Hospital Blood Drive in collaboration with Department of Students Affairs
Mega Project Exhibition and Robotics Competition 2019	4th Jul 2019	NED Auditorium / Fountain Area	SENTEC in collaboration with Department of Students Affairs
Symposium: Kashmir & the Security of Pakistan/ Reference on the Past to Step into the Future	6th Sep 2019	Senate Hall, VC Secretariat	Department of Students Affairs
Open Day for First Year Students	7th Sep 2019	NED Premises	Department of Students Affairs
Visit of Beaconhouse School	19th Sep 2019	NED Premises	Department of Students Affairs
Visit of Agha Khan School	26th Sep 2019	NED Premises	Department of Students Affairs
Seminar Opportunities Available at Hong Kong Polytechnic University	04th Oct 2019	Video Conference Hall/ Civil Depart	Department of Students Affairs
Orientation / Carnival 2019-20	11th Oct 2019	NED Auditorium/ Fountain Area	Department of Students Affairs
Use of Drugs in Educational Institutions	17th Oct 2019	Video Conference Hall/ Civil Depart	Anti-Narcotics Force in collaboration with Department of Students Affairs
Breast Cancer Youth Awareness Programme 2019	22nd Oct 2019	Video Conference Hall/ Civil Depart	Pink Ribbon in collaborations with Girls Affairs Society & Medical Department
Yom-e-Hussain (RA)	24th Oct 2019	NED Auditorium	Department of Students Affairs
TNF Induction Session	30th Oct 2019	Audio Video Hall / Mechanical Depart	The Nedian's Forum Society in collaboration with Department of Students Affairs
Blood Donation Camp	30th to 31st Oct 2019	NED Premises	Fatimid Foundation in collaboration with Department of Students Affairs.
Interview of NDS	31st Oct 2019	Aviation Hall / Petroleum Depart	NED Debating Society in collaboration with Department of Students Affairs.
Seminar Regarding Higher Studies in France	31st Oct 2019	Audio Visual Hall / Petroleum Depart	Representative of French Universities in collaboration with Department of Students Affairs.
Participated in 3rd All Pakistan Bi-lingual Declamation Contest 2019	04th Nov 2019	Hayat Girls Higher Secondary School, Zeenat Auditorium	Hayat Girls Higher Secondary School
Seminar Regarding Higher Studies in United State of America	04th Nov 2019	National Incubation Centre (NIC) Auditorium	Representative of New York University & Clarkson University Society
Breast Cancer Awareness Session 2019	5th Nov 2019	National Incubation Centre (NIC) Auditorium	Shaukat Khanum Memorial Trust, Medical Department & Girls Affairs Society
GRE Session	5th Nov 2019	National Incubation Centre (NIC) Auditorium	United State Education Foundation Pakistan in collaborations with Department of Students' Affairs
Motivational Session and Theater "Raise the Curtain"	06th Nov 2019	NED Auditorium	NED SMS Alert Society in collaborations with Department of Students' Affairs
Awareness Seminar Typhoid Vaccination Campaign	12th Nov 2019	Audio Visual Hall of Mechanical Department	Health Department, Government of Sindh & The NEDIans Forum Society (TNF) in collaboration with Department of Students Affairs





Event	Dates	Venue	Organizers
Visit of Millennium School Students	20th Nov 2019	Automotive Department	Department of Students Affairs
Blood Donation Camp	20th Nov 2019	LEJ Campus	Fatima Thalassemia & Blood Bank
Leadership Skills for Engineers A Motivational Lecture by Mr. Qasim Ali Shah	25th Nov 2019	NED Auditorium	Department of Students Affairs
Health Awareness Camp on Bone Mineral Density (BMD) & Free Check-up of Dentistry Camp	4th Dec 2019	Medical Department	Dr. Essa Laboratory & Medical Department in collaboration with Department of Student Affairs
Anti-Corruption Walk	6th Dec 2019	NED Premises	Character Building Society, Higher Education Commission & National Accountability Bureau in collaboration
Blood Donation Drive	9th to 10th Dec 2019	NED Premises	Indus Hospital Blood Center & Medical Department in collaboration with Department of Student Affairs
Nikon Photography Training Session	10th Dec 2019	Video Conference Hall/ Civil Depart	NED SMS Alert Society (NSA) in collaboration with Department of Students Affairs
Visit of IBA- Islamia Public Higher Secondary School – Ghotki Students	24th Dec 2019	NED Premises	Department of Students Affairs
NED Debate Cup	23rd to 26th Dec 2019	Polymer & Petrochemical Engg Depart	NED Debating Society in collaboration with Department of Students Affairs
Tech Fest 2.0	7th Jan 2020	NED Auditorium	SENTEC Society in collaboration with Department of Students Affairs
Peace of Mind 2.0	8th Jan 2020	NED Auditorium	NED SMS Alert Society (NSA) in collaboration with Department of Students Affairs
Awareness Session Cyber Bulling and Harassment	17th Jan 2020	NIC Auditorium	Riphah International University in collaboration with Department of Students Affairs
Religious Motivational Lecture by Mr. Shuja Uddin Sheikh	23rd Jan 2020	NED Auditorium	Department of Students Affairs
Campus Walk to reduce Carbon Footprint	31st Jan 2020	NED Mosque to University Gate	Department of Students Affairs
Lecture on "Earn Cash Flow without Any Investment"	4th Feb 2020	Video Conference Hall/ Civil Depart	Department of Students Affairs
Symposium on "Understanding the Kashmir Challenges"	4th Feb 2020	VC Secretariat, NED UET	Department of Students Affairs
Programme "Baytee" Empowering Women through Information and Communication Technology	17th Feb 2020	Pearl Continental Hotel, Karachi	Ministry of Information and Communication Technologies Pakistan
Students counseling session "Get Students to Step into Your Institution"	18th Feb 2020	The City School, North Nazimabad Campus	The City School University in collaboration with Department of Students Affairs
Visit of Mind Heart Academy Students	18th Feb 2020	NED Premises	Department of Students Affairs
Three Days Training Session on "How to Design an Effective Online Awareness Campaign" & "Digital Citizenship and the Responsible Use of Social Media"	22nd to 25th Feb 2020	NIC Auditorium	CODE Pakistan in collaboration with Department of Students Affairs



# Sports Achievements and Awards

Controller of Student Affairs through its Sports section continues to engage students in Sports activities throughout the year. Tables below show some of the Sports Achievements and Awards from 2019-20.

Competition Title	Event	Organizing Body	Students	When	Award/Position Won
Skating competition	Skating	Karachi Sports Complex	Muhammad Hamza Farid (CY)	Oct-19	Winning Shield
National Military and Defense Convention	Gatling Gun	IMechE GIKI Chapter, GIKI	Ahmed Baig (ME)	Dec-19	Winner
SZAB Olympics	Throwball	SZABIST	Ramleh Aniq (CT)	Mar-20	Gold Medalist
Rifle shooting competition	Shukriya Jinnah Sports Competition	Pakistan Rangers	Shahbaz Akbar Ali (EE)	Dec-19	First position
Karachi United Football League	Football	Karachi United Football Academy	Sohaib Ahmed (AR), Syed Muhammad Hasan Saeed (ME), Fahad Ahmed (ME)	Mar-20	Finalists
Hole-In-One	Golf	Karachi Golf Club	Rafay Hassan (BM)	Dec-19	Title
Enigma	Badminton	IBA	Muhammad Huzaifa (CH)	Jan-20	Runner Up
3rd DSU Inter-University T20 Cricket Championship	T20 Cricket Tournament	DHA Suffa University	S.M Ameer Raza (IM), Mohammad Areeb (MY), Muaz ul Islam (PP), Muhammad Anas Azam (EL)	Dec-19	Runner Up
Hamdard Inter University Tournament	Volleyball	Hamdard University	Syed Muhammad Hasan Saeed (ME), Muhammad Usama (TE)	Nov-19	Semi Finalist
Futsal Leisure League	Futsal	Leisure League	Saad Khan (BM)	Jan-20	Quarter finalist
HEC Football Championship	Football	Higher Education Commission	Syed Muhammad Hasan Saeed (ME)	Feb-20	Quarter finalist
2nd Commissioner Karachi Marathon	Half Marathon 11 Kilometers	Commissioner Karachi	Basham Ahmed Baloch (ME)	Jan-20	Finisher
DD Warriors Pakistan's first obstacle race	5 Kilometers Race with 15 obstacles	DD Athletes	Basham Ahmed Baloch (ME)	Mar-20	Finisher



Table below shows Competitions sorted Winner, Runner Up and Participation wise from 2019-20.

Sports Event	Venue	Dates	Remarks
Table Tennis, Badminton Boys and Girls Tournament	NED Gymnasium	July 2019	
Paychothon 19 Girls and Boys Basketball, Badminton Football Volleyball	Hamdard University	Sep 2019	Boys and Girls Winner in Basketball
Paychothon 19 Girls and Boys Basketball, Badminton Football Volleyball	Hamdard University	Sep 2019	Football Boys Runner-Up
Table Tennis Tournament For Girls With The Collaboration Of Motor Way Police	NED Gymnasium	Oct 2019	Winner
Intervarsity Futsal (Boys) Tournament 2019.	PAF KIET, Karachi.	Nov 2019.	Winner
Shukria Jinnah Shooting Competition 2019 (Boys & Girls).	Rangers' Head Quarter, Superhighway Karachi.	Dec 2019	Boys and Girls Winner

### Runner Up

Sports Event	Venue	Dates	Remarks
DHA Suffa Inter-Varsity Cricket tournament	DHA Suffa University, Karachi.	25th Nov to 6th Dec2019	Runner Up



# Sports Achievements and Awards

## Participated

Sports Event	Venue	Dates	Remarks
(Fehmina FE-CE-223) Participated in 33rd National Games 2019. (Sindh Squash Women team)	Peshawar	Nov 2019	Bronze Medal
(Abeera Marium BE-AP-38) Participated in 33rd National Games 2019. (HEC Women Badminton team) at Peshawar	Peshawar	Nov 2019	Participated
Intersarsity Basketball (Boys) Championship 2019 at PAF KIET, Karachi	PAF KIET, Karachi.	Nov 2019	Quarter Final
Karachi United Futsal League tournament for boys	IBA, Karachi./ Madhoo Goth Football ground	4th Jan to 22nd Feb 2020	
Karachi United Futsal League tournament for Girls	NEDUET Futsal Court & IBA, Karachi	44th Jan to 22nd Feb 2020	
Intersarsity Premier League (Provincial Level) 2020 (Cricket-Boys)	IBA, Karachi	9th to 15th Feb 2020	Participated
Intersarsity Premier League (Provincial Level) 2020 Football (Boys)	Hamdard University	16th to 23rd Feb 2020	Quarter Final
Friendly Cricket Matches.			
NED vs Indus, Karachi	NED Ground	02nd Nov 2019	Winner: (NED)
NED vs IoBM Karachi	NED Ground	23rd Nov 2019	Winner: IoBM.
NED vs DHA Suffa University	NED Ground	23rd Nov 2019	Winner: (NED).

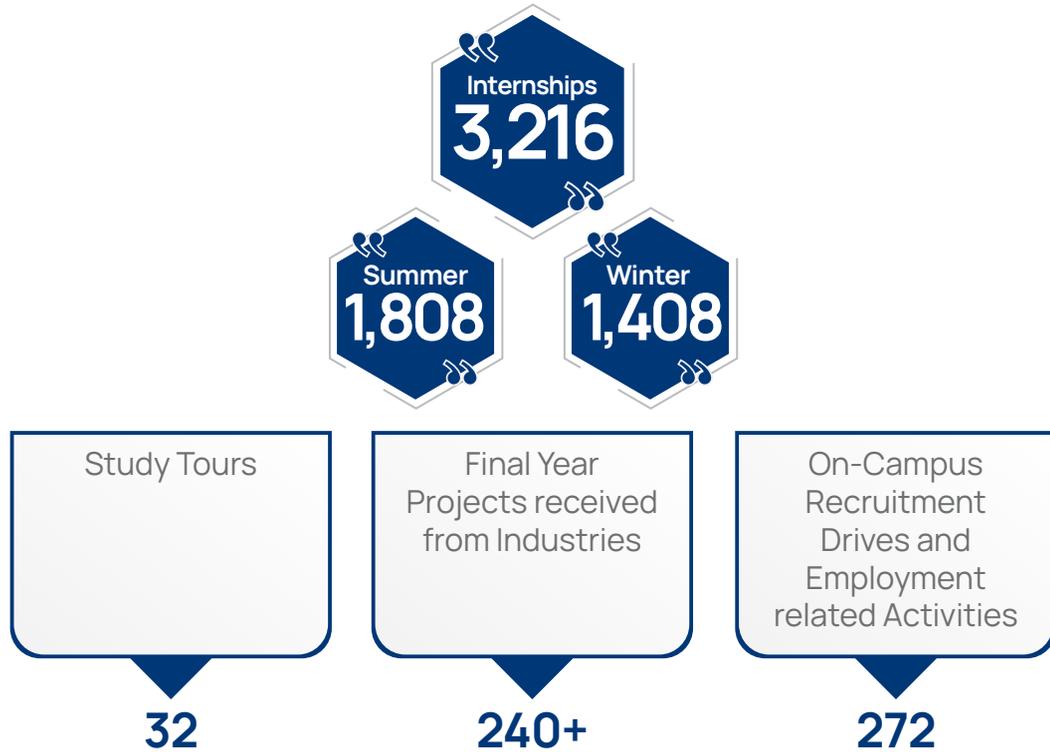
## Organized

Sports Event	Venue	Dates	Remarks
Futsal trials & training camp with the collaboration Karachi United Football. (Boys & Girls)	Madhoo Football Ground for Boys & NED Futsal Court	5th and 6th Nov 2019	Conducted successfully
Organized Sports Gala with collaboration of Pakistan Blind Sports Federation, Karachi	NED Cricket Ground.	27th Nov 2019	Conducted successfully
NETA Female faculty Badminton tournament. Organized with the collaboration of NETA	NED Boys Gymnasium.	19th Feb 2020	Conducted successfully

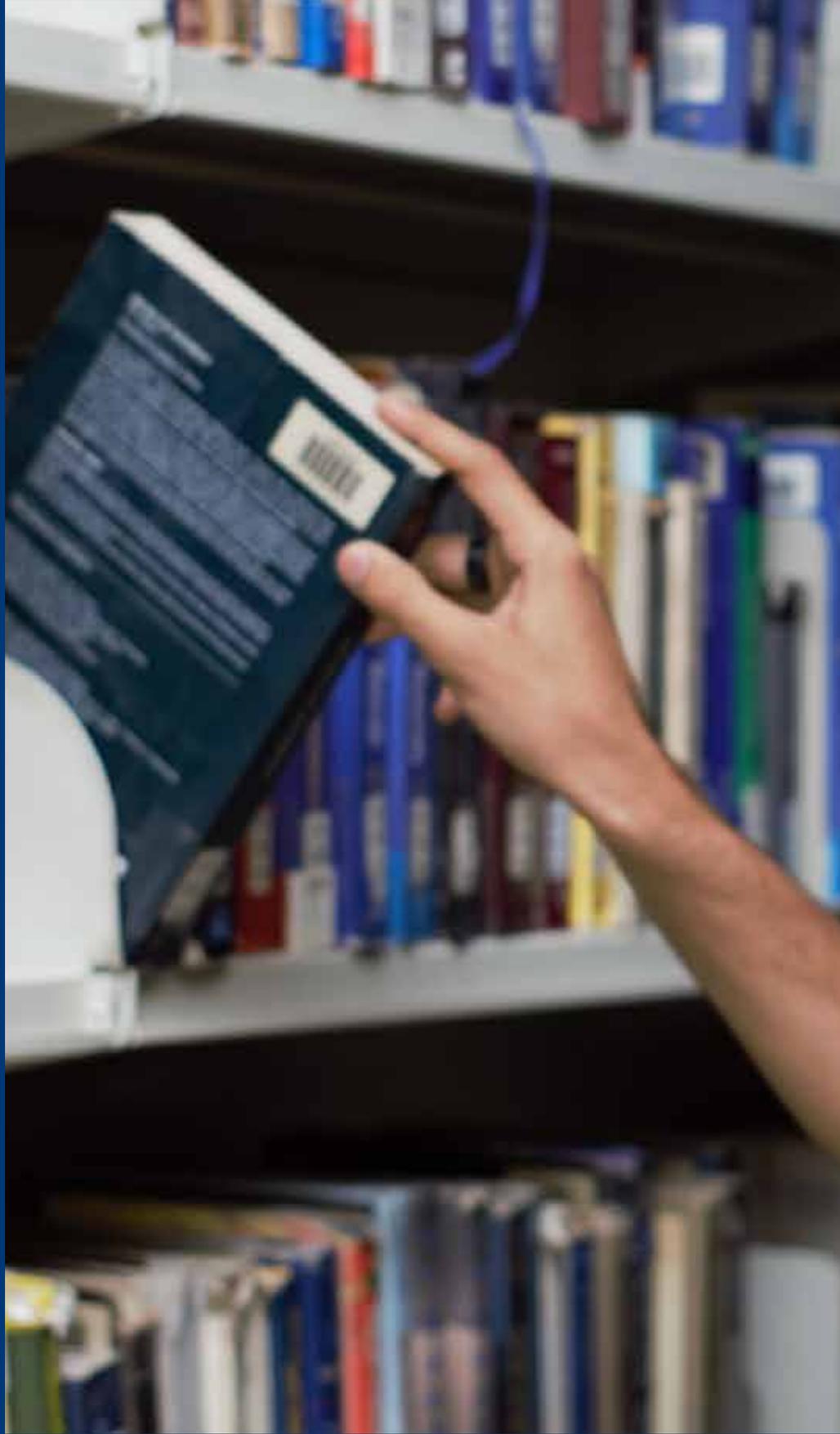


## Internships

NED University values industrial experiences for our students very highly. The Directorate of Industrial Liaison through its vibrant team makes all out efforts to ensure that every year these experiences are improved and diversified. The statistics below show details of the internships, study tours, FYPs and Recruitment activities conducted on campus.



# Engr. Abul Kalam Library





**100,687**

Number  
of Books  
in Library

e Journals through  
HEC National  
Digital Library Access

**Over  
75,000**

**Over  
180,000**

Number of  
e-books

Number of  
Research Paper  
Downloads

**Over  
45,000**

**16,404**

Number of  
Library Members

# Quality Assurance

ISO 9000 certified since 2002

Successfully transformed to  
ISO 9001:2015 standard

QEC cells have been established in all  
**affiliated colleges and TIEST**

QEC in "W" Category with **95.67%**  
score in **2018-19**  
(Results from **2019-20** awaited from HEC)

Number of Training  
conducted

**32**

Number of  
participants

**1,152**

## Quality Assurance

For the quality assurance and continuous improvements in higher education in NED University, Quality Management Cell (QMC) was established in 1999. The core objective of QMC was to develop and implement state-of-the-art Quality Management System at NED University. QMC successfully established quality management system and acquired ISO 9000 certification in year 2002. Later on, in 2012, with the initiative of Higher Education Commissions (HEC) of Pakistan, NED University strengthen the QMC and established Quality Enhancement Cell (QEC) to equip the university with modern tools and techniques of quality assurance as per guidelines of HEC. Later on, QMC and QEC were combined to form a synergetic and focused department. Since then, amongst the top QECs of the country, NED-QEC has been instrumental in assuring quality in higher education within its campuses and affiliated colleges. With the advent of QAA in recent years, QEC NED has coordinated with HEC with the spirit of continual improvement. The following are major highlights from 2019-20

## QEC Ranking

Quality Assurance Agency (QAA) of the HEC assesses the progress of the Quality Enhancement Cells (QECs) of all Universities through a quantitative 'Scorecard System' based upon their performance and participation in quality-related processes. Since last five years, NED QEC stands in highest category of HEC, which is "W" category. During the reporting period, NED QEC achieved score of 95.67% with a placement in 'W' Category.

## Membership and Affiliation

NED QEC is partner member of three international and one national Quality Assurance Networks, whereas the QEC is the part of governing body of PNQAHEE. Following are the QA networks:

1. Asia-Pacific Quality Network (APQN)
2. The Talloires Network
3. International Network for Quality Assurance in Higher Education (INQAAHE)
4. Pakistan Network of Quality Assurance in Higher Education (PNQAHE).

## Research in Quality Assurance

NED QEC is actively patriating to conduct research in the field of quality assurance in higher education. Director and Deputy Directors QEC participated in national and international conferences and presented their researches. One publication of the QEC is also published in an international journal.

## Faculty and Employee Trainings

Annual Faculty Development Programme (FDP) of 36 hours training was oragnized for the newly appointed lecturers and the refreshers from various departments. FDP was held between 15th October to 7th November 2019. Ten Master Trainers provided the diversified trainings related to Effective Teaching Methodologies, Quality Management System (QMS), Effective Research Methodologies, Writing Research Proposal etc. Other than these training, total 23 in campus and 9 training at TIEST were conducted and an overall of 1,152 faculty members, officers and staff of the university were trained.

## Self-Assessment of Programmes

To assure the quality in higher education institutes, self-assessment is an important tool that provides feedback for faculty and administration for continual improvements. As per the HEC directives, second assessment cycle of 20 Masters and Undergraduate and 18 PhD been completed; SARs of 10 Programmes are in progress.

## Internal and Surveillance Audits

Internal and Surveillance audits were arranged by the QEC on 29th-30th October 2019 and 14th and 15th November 2019 respectively. Internal and external auditors reported the “satisfactory” status of quality management system in NED University.

## QEC Social Outreach

NEC University is not limited to pursue quality assurance in higher education locally but also actively participate in providing quality assurance services to other institutions. Following services are provided by the NED QEC to other institutions:

1. Dr. Asif Ahmed Shaikh along with HEC Team visited Kohat University of Science and Technology for the Institutional performance evaluation (IPE) from 16th to 18th September 2019.
2. Dr. Asif Ahmed Shaikh delivered a lecture on “Population Dynamics of Pakistan” to the officers of ongoing Mid-Career Management Course (MCMC) at National Institute of Management (NIM), Karachi on 3rd March 2020.
3. Dr. Rizwan Farooqui and Dr. Riaz Uddin provided workshop on “Research Management and Proposal Writing” in Dawood University of Engineering and Technology on 1st August 2019.
4. Dr. Muhammad Wasif, Dr. Syed Mehmood Hasan and Dr. Shenela Naqvi performed the OBE Mock Audit in Sir Syed University of Engineering and Technology on 28th and 29th January 2020.



**Dr. Asif A. Shaikh**  
at NIM Karachi.



**Dr. Rizwan Farooqui  
and Dr. Riaz Uddin**  
at Dawood University of  
Engineering and Technology.



**Prof. Dr. Asif A. Shaikh,**  
Director QEC receiving certificate of participation from  
**Mr. Shafqat Mehmood,**  
Federal Minister of Education



Faculty Development Programme



Training conducted at Thar Institute of Engineering, Science and Technology, Mithi, Tharparkar.

# Information Technology

NED university's IT department is responsible for central IT services. NED University locally hosts a full data centre and private cloud offering all IT services locally. These services include Enterprise Resource Planning software, Learning Management Systems, secure email service and various research journals fully automated management software.

Endeavoring to provide cutting technological solutions for enhancing the teaching methodology and support research. The ITD offers the following services;

- **24 x 7 Network Operations**
- Various web-based services (Web, DNS, and Email etc.)
- **Infrastructure development and enhancement**
- Indigenous Software development services
- **Customer Support**

This year ITD has performed at several fronts launching its own services as well as collaborating with HEC to launch some services benefitting higher education in general. The following are the highlights for the year 2019-20;

## **NEDUET - VPN**

A secure solution to get access to all Digital Library and local IT services (portal etc.) remotely from home using your digital devices 24/7. Services are accessible through

<https://vpn.neduet.edu.pk>



## GSUITE for Education

NED has acquired subscription for Google's cloud-based productivity, collaboration services and tools for businesses and Educational Institutions, offering feature packed application suite with humongous limits. A glimpse of feature is as under;

- Institution-wide email through Gmail
- Shared calendars
- o Classroom collaboration with Google Classroom
- Video and voice conferencing
- Unlimited cloud storage
- Documents, spread sheets, presentations, and forms
- Easy to create sites
- 24/7 support by phone, email, and online

## NED offers online classes

Sensing the future needs NED University had already interactive classes using **Google Classroom** which ultimately provided us existing foundation for current COVID-19 pandemic during which complete online classes solution was developed adding **Google Hangouts Meet** to the **Google Classroom**.

# Information Technology

## Smart University Wi-Fi with EDUROAM

The Main and LEJ campuses of NED have blanket Wi-Fi coverage under the Smart University Project of HEC which is further being extended to City Campus. Facilitated by EDUROAM service, users can access with same credentials through all member institutions.



## PERN

The PERN connectivity and bandwidth has been further enhanced this year with whopping speeds at all three campuses as well TIEST as under;

LINKS	SPEEDS
Main Campus	653 Mbps (PERN: 160 Mbps, Smart University: 493 Mbps)
LEJ Campus	51 Mbps (PERN:20Mbps, Smart University: 31 Mbps)
City Campus	20 Mbps
TIEST	50 Mbps
<b>Total Bandwidth</b>	<b>774 Mbps</b>

## EDUGAIN

Recently NED University became the first university in Pakistan joining GEANT, which is a pan-European community network of education and research. NED University has launched all GEANT HEI services under the umbrella of EDUGAIN. These services include cloud storage, large educational data sharing, **remote access (EduVPN)**, and digital library.



## PEC Journal of Research



## IT Infrastructure at Tiest

Continuing the excellence in provisioning of IT services the ITD had also setup IT infrastructure in Thar Institute of Engineering, Science and Technology (Tiest) on similar grounds as NED Main Campus; the highlights are as under:

- 50Mbps robust CIR Internet bandwidth
- Dedicated NOC
- Campus based High density WiFi (802.11ac)
- Computer lab
- Dedicated Multimedia facility for online meetings and webinars
- Secure VPN connectivity to Main Campus enable access to all Intranet services (Portal CMS, library, mail etc.)
- Gsuite for Education accounts for all students and faculty.
- 24x7 online remote support from Main Campus.
- So far 5 webinars have been conducted from Main Campus faculty.



NED Academy has been the pivotal wing of NED University since over two decades for continuous professional capacity building. NED Academy is registered with Pakistan Engineering Council as Professional Engineering Body (PEB) and hence courses conducted by NED Academy are valid for earning CPD points for engineers. The focus of NED Academy has been “Empowering for Professional Excellence” via continuous offerings of market based globally savvy training programmes ranging in diversity for the energetic youth to professional engineers to middle-tier managers to seasoned top leadership of organizations.

During 2019-20, NED Academy executed and facilitated following streams of courses:

1. Professional Certification Courses
2. Professional Short Courses
3. Postgraduate Certificate (PGC) Courses
4. Corporate Trainings
5. Postgraduate Diploma (PGD) Courses
6. Undergraduate Diploma Courses
7. Entrepreneurship / Youth Development Programmes
8. Collaborative Courses

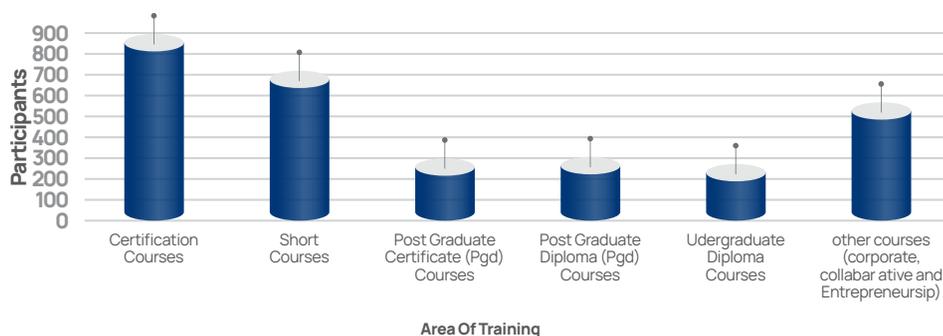
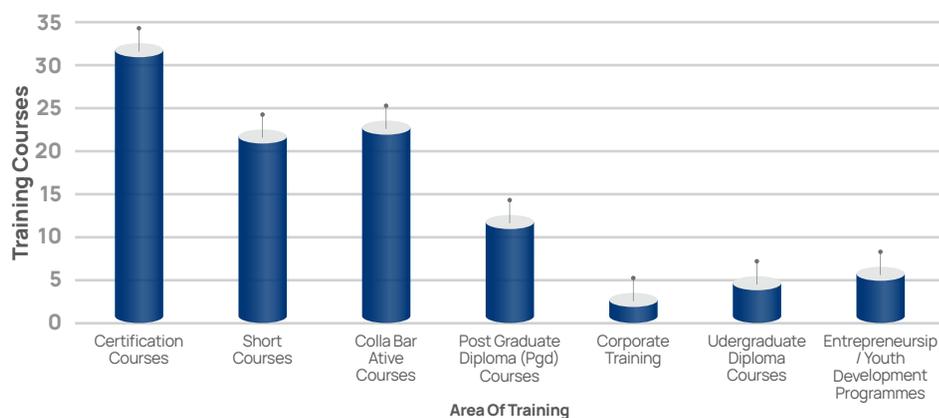
Approx. 2566 participants were facilitated via the courses offered during 2019-20, including 968 industry/ professional participants, 354 undergraduate students, 411 postgraduate students, 295 diploma training students, 200 vocational training students and 338 students from unemployed/ unskilled youth.

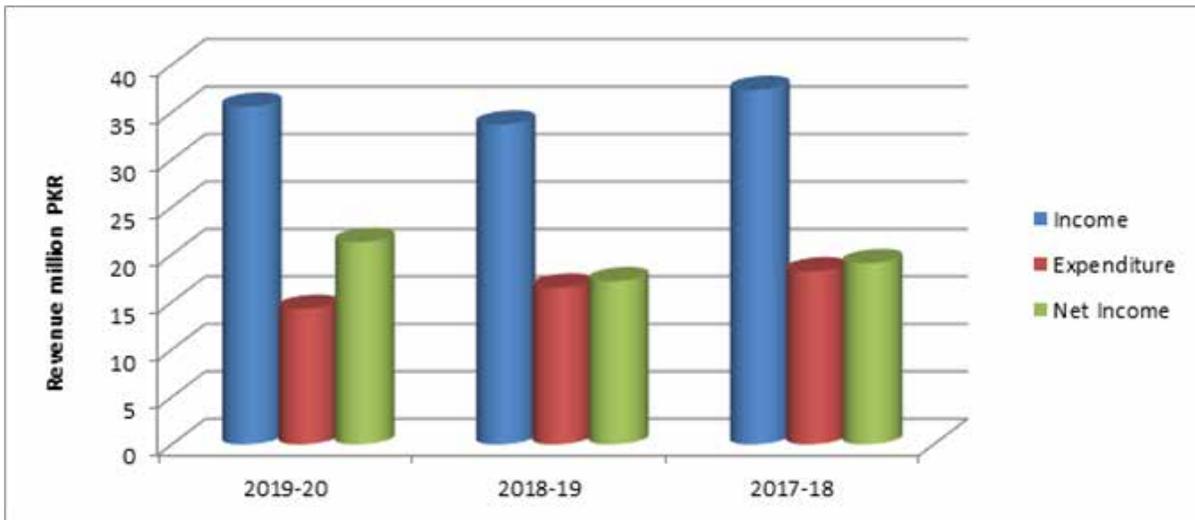
In wake of the COVID-19 pandemic, all activities restricted up to 8 months (July, 2019 to Feb., 2020) during the financial year 2019-20. We have so far generated Rs. 39.637 Million in revenue during this financial year.

## New Initiatives

- Seeking the contribution from GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), a German development agency that provides services in the field of international development cooperation, on establishing the simulation lab and vocational trainings.
- After the establishment of NED Academy in 2008, diploma Programmes have run first time in 2019. Now we have offered 11 diploma programmes (Postgraduate / Undergraduate), where students can get enrollment.

- Giving helping hands to the Prime Minister’s “Digital Pakistan Vision”, turned focus to train the youth with crucial IT trainings (i.e., Data Science with Machine Learning, Digital Marketing, etc.)
- Youth Development Programme is another dimension, where Amal Academy is taking part with NED Academy and organizing short certifications at NED Academy.
- Moreover, to inculcate the business and entrepreneurial mindsets in our youth and convert them into Entrepreneurs and Business Leaders through training programmes and incubation support, Centre for Business and Entrepreneurship is working under the umbrella of NED Academy.
- NED Academy has also started a certification programme in the area of Construction Safety namely Certificate in Construction Safety) as well as global competency credential in Human Resources namely Professional in Human Resources-International (PHRi) / Senior in Human Resources-International (SPHRi).





## Some of the institutions participated are



# Office of Research, Innovation and Commercialization

ORIC pursues to boost the environment of Research and Technology commercialization at University by supporting the university's strategic research directions and policies to Increase and diversify external research funding and grants and enhance the technology transfer mechanism to convert research into commercialized product for the public benefit.

## Innovation and Intellectual Property

With the increased emphasis on Intellectual Property Protection and Technology Transfer, ORIC at NED University, established Technology Innovation Support Centre (In collaboration with World Intellectual Property Organization) for the university scholars, researchers innovators, entrepreneurs and related industries and business community to be enabled to access locally based, high quality technology information available in patent databases and related services.

TISC provide assistance to all stakeholders to create, protect, and manage their intellectual property (IP) assets, strengthen the local technological base (by building up local know-how), Increase technology transfer (e.g. by investigating the possibilities of licensing, joint ventures, etc.).

## Research Activities

ORIC played an efficient role in encouraging faculty and researchers to actively participate in the funding and research grants available through national and international forums to transform their research into developed products for commercialization for making incremental improvements to the quality of life for consumers.

In addition to the on-going projects, this year, following number of research proposal are already submitted and are in various stages of review.

- 103 -** National Research Programme for Universities (NRPU), which is a flagship Research Programme of HEC for funding research grants on competitive merit for high-level and promising scientific research projects that demonstrate strategic relevance and impact to local industry and society.
- 33 -** The Grand Challenge Fund (GCF), a Project supported by the World Bank and implemented by the Higher Education Commission (HEC). The GCF is anticipated to promote research excellence in strategic sectors of the economy, and will provide funds to selected institutions based upon a competitive, peer-reviewed evaluation of proposals.
- 4 -** Innovative & Collaborative Research Grant (ICRG), which supports research partnerships between Pakistani and UK universities, research bodies and existing centers of excellence that focus on any of the emerging disciplines/priority areas.
- 5 -** Technology Development Funds to finance proposals of completed interdisciplinary applied research projects for prototype development and industrial value addition for technology development.



# National Incubation Centre, Karachi

## Key Statistics

Total Startups inducted  
**77**

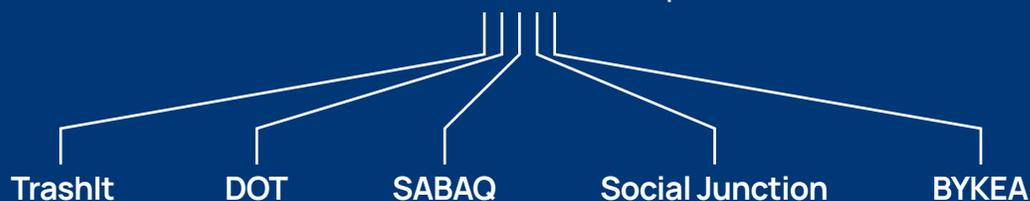
Startups Graduated  
**17**

Jobs Created  
**9,321**

## Key Achievements

Two of NIC Startups, Bykea and AquaAgro were part of PM Imran Khan's selected 10 innovative startups of Pakistan.

### Few Notable Startups





# Outreach and Networking



# UAFA and Alumni Engagement

UAFA has been continually active in engaging with NED Alumni, through promotion of NEDAN activities. The NED University Alumni Network (NEDAN) was formed in 2004 as a network for encouraging the promotion of alumni related activities. This forum enables graduates of the former College as well as of the University to initiate their support and activities related to student welfare, academics, and research. The NEDAN activities have since been extended to focus on alumni relations and their efforts in the support of the University.

NEDAN has been offering three types of membership for the alumni. 1) Associate Membership, 2) Annual Membership and 3) Life-time Membership.



All alumni irrespective of their memberships type is facilitated with periodic emails of quarterly newsletters, birthday wishes, booklet “The NED Experience”, wishes on national days and Eid days, academic and professional opportunities at NED University, invitation to alumni reunions, conferences, guest speakers and etc. Annual members and life-time members are facilitated with gym, library facility, discounts on printing and photocopying, vehicle identification and entry passes, discounts on courses of post-graduation and NED academy.

Besides some benefits are reserved for Life-time Members which include admission of their ward on self-finance basis, use of the particular university premises on discounted rates which include auditorium, video conference hall, fully secured ground for social events.

## The NED Experience

UAFA has been publishing a booklet related to alumni since 2017 and is being published after every two years. The booklet contains the messages of the alumni, success stories of alumni, past memories, memorable events, developments at the university and many more. The booklet is placed at the website of the university, UAFA and its soft copies are distributed in industries, prominent alumni and those alumni who visit NED University. Besides, the booklet is emailed to alumni as a part of periodic communication with alumni. The booklet can be retrieved via the link: <https://www.neduet.edu.pk/ned-experience>.

# NED International Alumni Convention

With increasing Alumni Engagement, NED Alumni Association in collaboration with NED University organized a gigantic NED International Alumni Convention from 28-29 December 2019.

Some 3000+ Alumni participated and made convention a huge success!

Convention brought in support pledges for the University as follows

- Day Care Centre – USD 40,000 by Mr. Asif Mahmood
- Smart Classroom – USD 10,000 by NED Alif
- Examinations innovation – USD 75,000 by Dr. Safwan Shah
- Professorial Chair for Water – USD 75,000 by Mr. Aftab Siddiqui
- City Campus – USD 30,000 - NEDIAN



# Institutional Linkages

This year, several Memorandum of Understandings and Agreements were signed with various organizations for various types of projects and cooperation. Some of the salient ones are listed below:

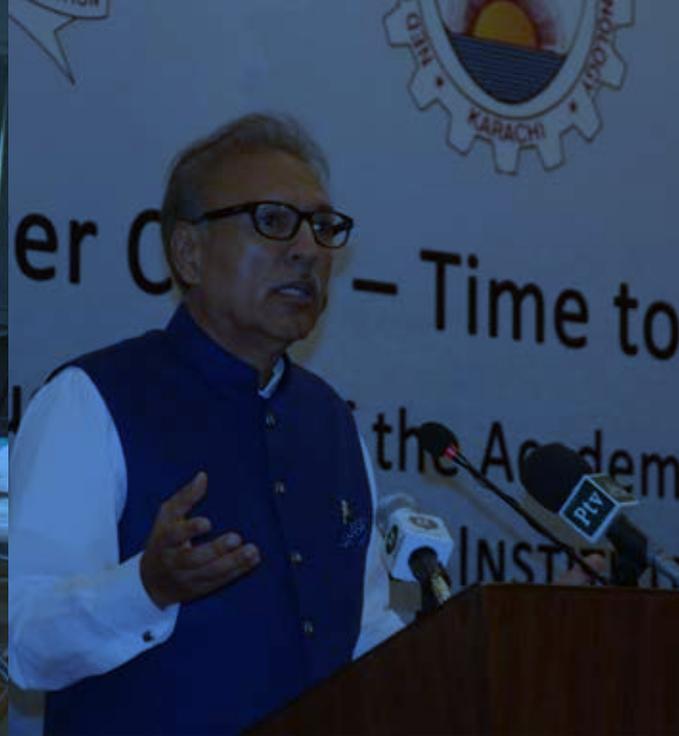
- 1 MoU between Ismail Industries Limited and Department of Food Engineering
- 2 MoU between Planning and Development Department, Research and Training Wing, Government of Sindh and NED University of Engineering and Technology
- 3 Memorandum of Understanding between Sui Southern Gas Company Ltd. and NED University of Engineering and Technology
- 4 A Memorandum of Agreement for Academic and Commercialization Purposes between PV Lab, Pakistan and NED University of Engineering and Technology
- 5 Agreement between Pakistan Post and NED University of Engineering and Technology
- 6 MOU between Sindh Engro Coal Mining Company NED University of Engineering & Technology, and The Citizens' Foundation
- 7 MOU between Fast Cables Limited and NED University of Engineering and Technology, Karachi
- 8 MOU between The Department of Population Health Sciences, Bristol Medical School, University of Bristol, UK and NED University of Engineering and Technology
- 9 MOU between AI Engineering, Inc. Middletown, CT, USA and NED University of Engineering and Technology
- 10 MOU between Pakistan Council of Renewable Energy Technology (PCRET) and NED University of Engineering and Technology
- 11 MOU between Society for IAM KARACHI and NED University of Engineering and Technology
- 12 MOU for Conducting Certified Training Course between Health and Nutrition Development Society and NED University of Engineering and Technology
- 13 MOU between INER-Z Pvt. Ltd. and NED University of Engineering and Technology
- 14 MOU between Neurocomputation Lab, NCAI and FS Tech Pvt. Ltd. for development of IoT enabled OBD Data Analytics
- 15 MOU between Pakistan Council of Research in Water Resources Islamabad, Pakistan and NED University of Engineering and Technology
- 16 MOU between The Indus Hospital (TIH), Karachi and NED University of Engineering and Technology



# Prominent National and International Delegates

NED University was privileged to have hosted several prominent national and international luminaries on its campuses during the year. The list is very long, only a few are being shared here.

- UNDP Team visited NED University in July 2019
- President of Pakistan, Mr. Arif Alvi inaugurated Panjwani Hisaar Water Institute in August 2019
- Advisor PM visits NED University to have a discussion with University Management
- Vice-Chancellors of Regional Universities visit NED University
- Visit of Naval Research and Development Institute Leadership to NED University
- Delegation from Edith Cowan University Australia visited NED University in September 2019
- Mr. Firdous Shamim Naqvi, MPA - visited NED University in September 2019
- Deputy Consul-General Japan Mr. Katsunori Ashida visited NED University in September 2019
- Delegation from Ulster University visited NED University in September 2019
- Mr. Shabahat from French Embassy Karachi visited NED University in October 2019
- Turkish Delegation visited NED University in October 2019
- Asian Development Bank Delegation visited NED University in October 2019
- General Nadeem, NDMA visited NED University in October 2019
- Town Hall on Higher Education - Chairman HEC and World Bank Team at NED in December 2019
- CM Sindh attends NED International Alumni Convention in December 2019
- Delegation from Monash University Australia, Mount Sinai, NY and Stanford Medical School visit NED in December 2019
- Dr. Bari, CEO Indus Hospital along with his team visited NED University in January 2020
- Mr. Ali Naqvi, owner Islamabad United PSL Cricket Team visit NED in January 2020
- KRL Delegation visited NED University in January 2020
- Senator Murtaza Wahab visits Water Production Facility at NED University in February 2020
- HEC R&D and World Bank Team visits NED University in February 2020
- Younus Khan Ex-Cricketer visits NED in February 2020 to participate in Healthy Friday
- Japanese Commercial Consular, Ms. Mai Amano visited in February 2020



# University Social Responsibility

NED University while realizing its role of contributing towards the society – in addition to imparting quality education along with inculcating high ethics to the students – has continued its activities of previous years. More activities were also initiated this year under the domain of USR. The summary of such activities is as described below

## Existing Initiatives



Two dedicated shuttles arranged in collaboration with Institution of Engineers, Pakistan, Karachi Centre ply within campus for facilitating the students and making their within-campus mobility comfortable



The University has continued plying its shuttle service for the students with its portion of the expenses met under USR programme.



The two water filtering Units with the capacity of 10,000 gallons per day and 5,000 gallons per day respectively are continuously providing safe and filtered water to the students, employees and the residents of University Staff Colony



The 'Daycare Centre' is facilitating the female university employees. The University has recently approved Rs. 5 million for construction of an additional block for the Centre; its stone laying Ceremony was held in December 2019 by Justice (Rtd.) Nasira Iqbal



More than 200 students are enrolled in 'Cowasjee School' established under NED University USR programme. The employees' children studying in this school are being charged a very nominal fee



The shuttle for pick and drop of the University employees' children to their schools has continuously provided its services. A very nominal fee is being charged to the parents for this service.



Students of NED University participated in beach cleanup Activity.



This year again the University arranged Blood Camps for the blood banks and hospitals with having reputation and credibility.



Students visited a thalassemia centre and an orphanage and spent the day with the children.



Wastewater treatment plant is being fully utilized for the treatment of total waste water produced within the University with its effluent used for the trees and plants in the campus.



NED University apart from planting trees of various species, planted more than seventy coconut trees in the campus.



Urban Forests are being established in the campus. Six forests already established with each having 90 fruit bearing trees; Bank AL Habib, Pak Suzuki, Col. Zafar and Engr. Suhail Bashir sponsored for establishment of these forests.



NED University has declared each Friday as Healthy Friday. With no vehicles allowed within campus; bicycling is encouraged to commute. Prominent figures have joined NED University during healthy Fridays.



NED University students participated in ameliorating the condition of "Hali Muslim Govt. Boys Secondary School", Nishtar Road, Garden West, Karachi. This School was not operative since 2011. The ground floor of school including five class rooms and a staff room has become functional and classes commenced from 2nd January 2019.



Plantation of coconut trees was arranged on a public ground, near Alfalah Masjid, North Nazimabad Karachi.



TIEST arranged for distribution of ration for poor people during Covid-19.

# Feature Achievements

Faculty Industrial Placements

Thar Institute of Engineering,  
Science and Technology

Development of Sports Complex

Development of Student Cafeteria

**COVID-19 Response**



# Faculty Industrial Placements

In order to further enhance industry-academia linkage, NED University embarked on a faculty industrial placement programme. The objective of the initiative is to allow faculty members to spend time at industry allowing him/her to better acquaint with industrial processes, needs and norms. This also allows the academic-industrial network to grow, critical for any cross-platform collaboration and synergy to flourish.

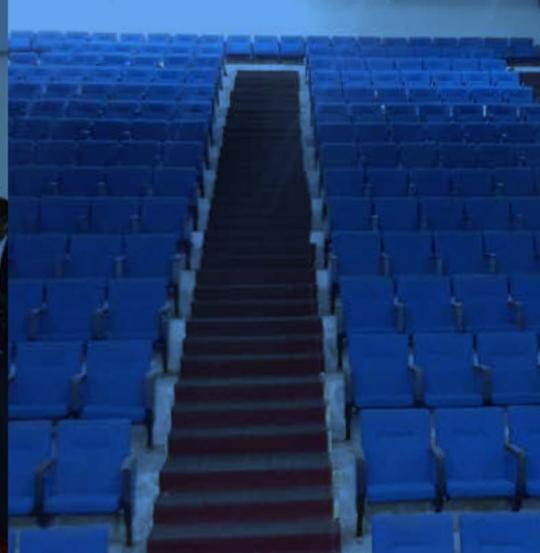
The following faculty members availed industrial placement opportunities:

- Dr. Muhammad Ali from Department of Textile Engineering spent one month at Shekhani Industries
- Dr. Aslam Bhutto from Department of Civil Engineering spent two months at Arif Qasim Associates
- Ms. Yasmeen Khan from Department of Automotive and Marine Engineering spent one month at Gandhara Nissan Motors
- Mr. Muhammad Umer from Department of Civil Engineering spent one month at CostVeyors
- Mr. Haris Akram Bhatti from Department of Civil Engineering spent one month at ACE
- Syed Muhammad Noman from Department of Civil Engineering spent one month at Vernier Engineering Consultancy
- Dr. Abdul Ghaffar from the Department of Environmental Engineering spent more than one month at GEMS Pvt. Ltd.
- Syed Imran Ali from Department of Petroleum Engineering spent one month at Schlumberger MI SWACO Drilling fluid laboratories
- Five Faculty members, Ms. Rabia Zubair, Ms. Saima Yaqoob, Mr. Hammood ur Rehman, Mr. Raheel Adeel and Mr. Zaid Khan from Department of Industrial and Manufacturing spent two weeks at AuVitronics Limited
- Two faculty members, Mr. Abdul Sami and Mr. Syed Muhammad Tariq from Department of Chemical Engineering spent six weeks at PARCO Multan
- Raza Muhammad Khan from Department of Polymer and Petrochemical Engineering spent six weeks at FAV Plastico Pvt Ltd
- Ms Amber Fishan from Department of Mechanical Engineering spent three months at Orient Energy





# Thar Institute of Engineering, Science and Technology



## Progress in Timelines

- The Government of Sindh announced establishing the University Campus at Tharparkar District in April 2019.
- A meeting was held under the chair of honorable Chief Minister Sindh in August 2019 to review the progress for acquiring the land and the status for launching the classes. It was decided to use the Shaheed Benazir Cultural Complex as a temporary place for the Campus.
- The building which required extensive renovation was handed over to NED University at the start of September 2019.
- Renovation of the building and procurement of all desired equipment and facilities were initiated immediately.
- Within a span of one month i.e. on 24th September 2019 the campus was inaugurated, and the classes were started in October, 2019 for the Computer Science discipline.
- In the first batch, 21 students were admitted who had their First semester ended January 2020.
- A HEC team consisting of the senior professors and officers visited TIEST in February 2020, and NOC was issued in April 2020.
- 300 acres of land on Mithi Islamkot Road has been allocated for TIEST Campus.
- A development Project worth Rs. 1,600 Million has been approved.

## Resources

- Well-equipped classroom, labs including computer lab and library along with a spacious auditorium for 250 people is made available.
- In addition, offices for the faculty internet with bandwidth of 50 MBPS is also available at TIEST
- Separate hostel accommodation is arranged for students and the faculty/officers on rental basis.
- Students are facilitated with a shuttle service which is used for commuting students from hostel and also for their visits towards Community Service
- The Library is equipped with over 1700 books.
- Online Webinars: The University has planned to arrange webinars on regular basis where the NED alumni based in developed countries will deliver talks on modern technologies. In the initial phase such webinars were arranged from NED University main campus.



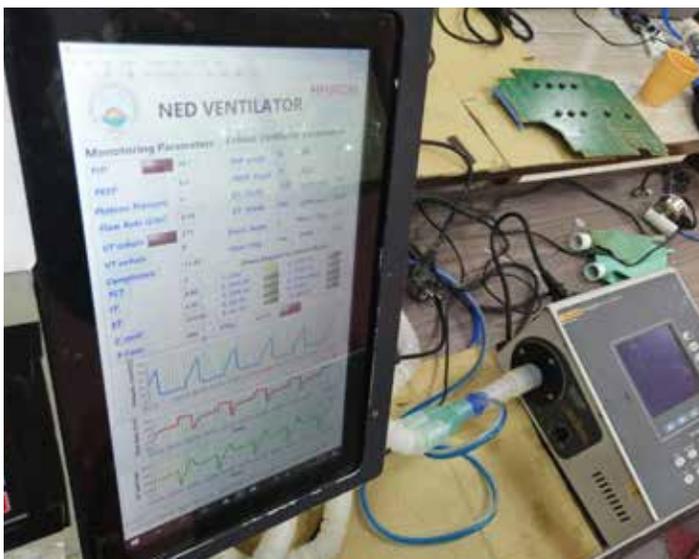
## Development of Sports Facilities

Development of Football Ground, Athletics track, and Cricket Ground is ongoing at a rapid pace, thanks to Government of Sindh support of Rs. 230 Million worth project.



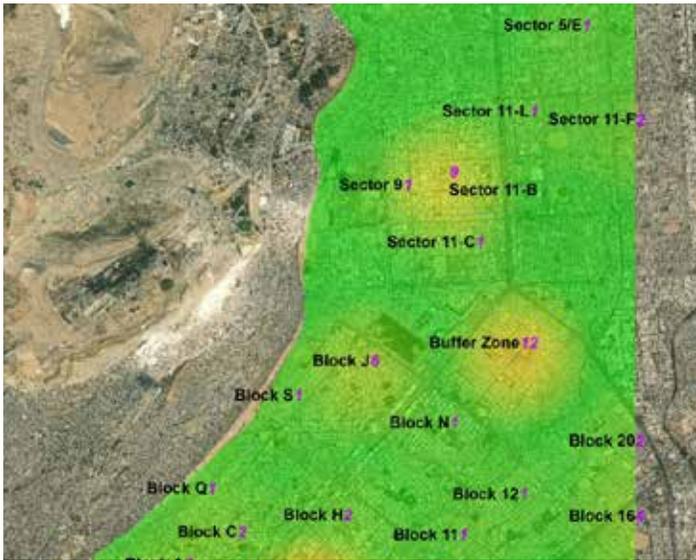
## Development of Student Cafeteria

- For the facilitation of Students, old Boys Cafeteria has been renovated with an exquisite self-service dining facility.
- The facility was inaugurated in February 2020.



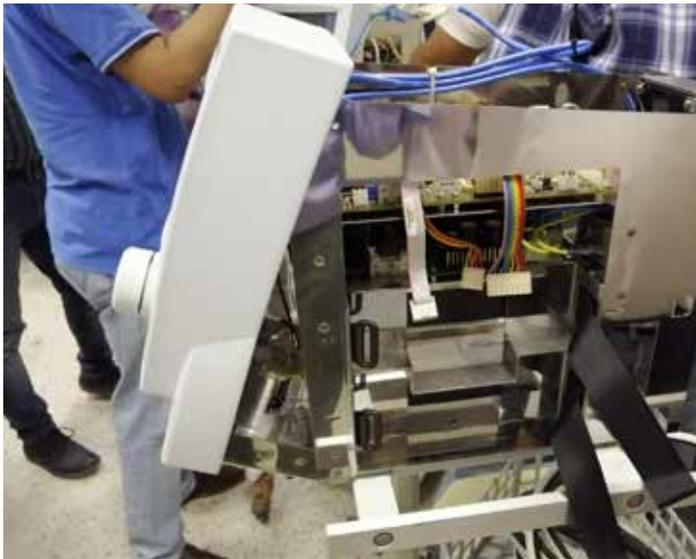
## COVID-19 Response – Development of NED Ventilator

Dr. Riaz Uddin, Assistant Professor, Department of Electrical Engineering along with his team at Haptics lab, National Centre for Robotics and Automation has developed a ventilator prototype which has cleared design approval and is currently scheduled for endurance test.



## COVID-19 Response – Infectious Disease Modelling

Dr. Bilal Ahmed Usmani, Assistant Professor, Department of Biomedical Engineering along with support from NED University GIS modelling team have been supporting the Government of Sindh with COVID-19 Epidemiological predictions, critical for day-to-day decision making for pandemic control.



## COVID-19 Response – Ventilator Repair

Dr. Hashim Raza Khan, Assistant Professor, Department of Electronic Engineering along with his team at Instrumentation Centre have been providing Ventilator Repair Support to Government of Sindh Hospitals.

## COVID-19 Response – Public Data Acquisition System and App

Neurocomputation Lab at National Center for Artificial Intelligence, NED University has technically collaborated with Government of Sindh for developing COVID 19 Public Data Acquisition System and Smart Phone Application, for efficient contact tracing and analytics.



# University Finances and KPIs

Development Projects

NED University Funds

Cost Per Student

Final Demand Estimates

Key Indicators

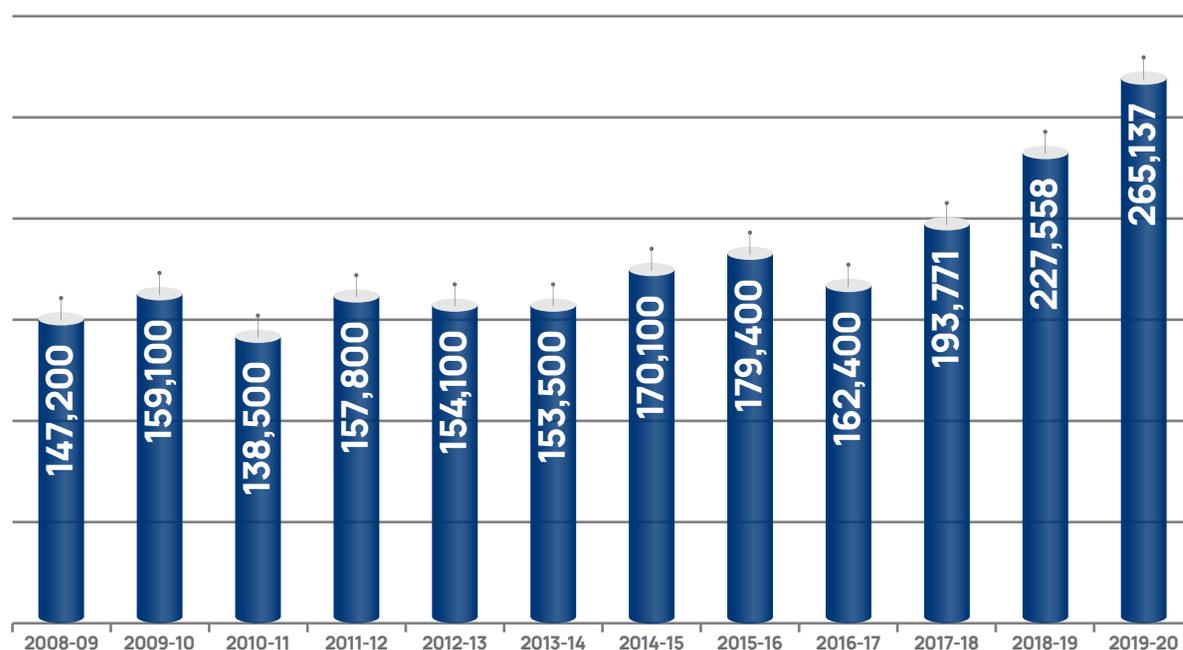
DEVELOPMENT PROJECTS				
Name of Project	PC-1 Provision	Releases up to 15.4.2020	Amount Utilized up to 15.4.2020	Expected Date of Completion
Commencement of New Engineering Programs and Infrastructure Development at NED University (Mega-IV)	750.697	750.697	554.374	Jun-20
Development of Department of Food Engineering & Infrastructure (ADP Project)	327.343	45.000	37.703	Jun-20
Development of Sports facility at NED University	230.000	230.000	125.923	Jun-20

NED University Funds	
Name of Fund	Total in millions PKR
NED University Endowment Fund	1,259.869
UDWP	217.000
Research Fund	302.319
MoST Endowment Fund	284.000
Oman IT Chair Fund	212.000
Rafeeqi Endowment Fund	6.000
Pension Fund	1,499.024
G.P.Fund	565.876
Benevolent Fund	96.000

# FINAL DEMAND ESTIMATES FOR THE YEAR 2019-20

<b>FINAL DEMAND ESTIMATES (2019-20)</b>							
NO	PARTICULARS	Recurring	Recurring TIEST	Self Finance	UDWP	Research	CCEE
1	Total Receipts	2,639.025	201.712	418.184	107.633	200.742	44.150
2	Total Payments	2,689.185	190.250	418.184	90.625	87.300	42.250
<b>3</b>	<b>Closing Balance</b>	<b>(50.160)</b>	<b>11.462</b>	-	<b>17.008</b>	<b>113.442</b>	<b>1.900</b>
4	Payment of various heads likely to be deferred	52.200	-	-	-	-	-
5	Net Closing Balance	<b>2.040</b>	<b>11.462</b>	-	<b>17.008</b>	<b>113.442</b>	<b>1.900</b>

## Cost Per Student (PKR)



Key Indicators			
Key Ratios	2018-19	2019-20	2020-21 (Planned)
Faculty : Staff Ratio	1 : 3.3	1 : 3.2	1 : 3.1
Faculty : Student Ratio	1 : 18	1 : 18	1 : 16
Self-Generated Income as % of total Resources	46%	47%	47%
Self-Generated Income as % of total Expenditures	46%	47%	47%
Recurring Grant as %age of total Expenditures	48%	39%	42%
Students Fees as % of Cost per student	28%	29%	29%
Salary as % of Total Expenditure	65%	65%	65%
Non-Salary as % of Total Expenditure	35%	35%	35%



**NED UNIVERSITY**  
OF ENGINEERING AND TECHNOLOGY



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