ANNUAL REPORT
OF THE UNIVERSITY
FOR THE YEAR 2021-2022

NATIONAL UNIVERSITY
of Computer & Emerging Sciences
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Preamble

As we reflect on another year of growth and achievement, we proudly present the Annual Report for the National University of Computer and Emerging Sciences (FAST-NUCES). Founded as a Federally Chartered University in July 2000, FASTNUCES has emerged as a premier institution in Pakistan, distinguished by the quality and impact of its graduates in the local software and technology sectors. With five modern campuses strategically located in Karachi, Lahore, Islamabad, Peshawar, and Chiniot-Faisalabad, fostering an inclusive environment with a vibrant community of female scholars. Our commitment to providing a world-class educational experience is matched by our dedication to advancing research that addresses the pressing social, economic, and technological challenges facing our nation.

This report highlights the significant strides we have made towards our vision of becoming a globally recognized research University within the next decade. From groundbreaking research initiatives to innovative educational programs, we remain steadfast in our mission to empower our students and contribute meaningfully to Pakistan development. We invite you to explore our achievements, challenges, and the promising future that lies ahead as we continue to elevate standards in higher education and research.

Dr Aftab Ahmad
Rector

Vision

To produce world- class professionals, who are responsible citizens and good human beings.

Mission

1. To identify and attract the most promising students from diverse communities, to shape them into visionary leaders and world- class professionals.

2. To impart quality education to students, irrespective of their financial background ethnicity, gender or religion to create an inclusive society.

3. To promote research and scholarly activities to generate knowledge.

The Foundation

The sponsoring body of the University – the Foundation for Advancement of Science and Technology (FAST) was established in 1980. It is registered with the Government of Pakistan as a charitable institution. In 1985, it selected higher education as a vehicle to pursue its objective of producing scientists and technologists of the highest caliber. FAST pioneered the development of IT industry in Pakistan by offering the country's first undergraduate program in Computer Science. Today, this University, sponsored by FAST, stands recognized as the leader and trend-setter in this field in Pakistan and abroad.

A Board of Governors, elected in accordance with its Charter, manages the affairs of the Foundation. The members of the Board are eminent personalities in their respective fields and are associated with the Foundation in an honorary capacity.

The University

Founded as a Federally Chartered University in July 2000, the National University of Computer and Emerging Sciences is a premiere University of Pakistan, renowned for quality and impact of its students in the development of local software and other industries. The university has five modern campuses at Karachi, Lahore, Islamabad, Peshawar and Chiniot-Faisalabad. These campuses provide world class educational environment and recreational facilities to about 13,000 students, around one-quarter are female.

Research wings of the university are well recognized, nationally and internationally. They are embarked upon cutting edge research having direct impact on the social, economic and technological needs of Pakistan. Our vision is to become a globally recognized research university of Pakistan within the next decade.

University Campuses
Chiniot-Faisalabad Campus

Situated at the junction of Pakistan's Textile Capital-Faisalabad and the historically rich city of Chiniot in suburbs of River Chenab, the Chiniot - Faisalabad campus is the 5th campus of the university. The campus symbolizes the desirable connection between nature and industry and between tradition and modernity. Its picturesque surroundings in the outskirts of Pakistan's Manchester, the home to the textile industry, represent human advancement from agrarian to industrial and technological society. Spanning around 30 acres along the Faisalabad Sargodha Road, approximately 9 kilometers from the M4 Motorway interchange towards Chiniot, this campus is a testament to academic excellence in both professional and personal realms. Following in the footsteps of its esteemed sister campuses in Islamabad, Lahore, Karachi, and Peshawar, graduates here are highly sought after by both national and multinational corporations, with many holding prominent positions in renowned institutions like Google, Facebook, and Microsoft.

FAST-NUCES Chiniot-Faisalabad is the first residential campus of the University offering Boys and Girls Hostel and allied facilities inside the campus. The campus is home to 1000+ boys and girls residing in campus. Offering programs in Computer Science, Software Engineering, Artificial Intelligence, Electrical Engineering, and Business Administration, the campus boasts a distinguished faculty dedicated to nurturing academic excellence. State-of-the-art facilities, including advanced computing and engineering labs, provide students with hands-on experience and a conducive learning environment.

Moreover, the campus has catalyzed Faisalabad's technological landscape, fostering a surge in technology startups. Its strategic proximity to leading industrial enterprises promises to elevate the standard of professional education across the nation.
Beyond academics, the campus fosters a vibrant student life, fostering holistic development through sports, competitions, and cultural events. From cricket to chess, students engage in a diverse array of activities that enrich their collegiate experience.
The campus has state of the art computing, engineering and other support facilities. Spacious and well-equipped computer and engineering labs impart practical orientation to the students in their respective areas of study. Audio-visually supported and well-furnished classrooms offer a favorable, conducive, and constructive learning environment to the students.

The Campus other than academics offer a very vibrant student life to contribute towards the personality development of the students. Extends sports facilities in both indoor and outdoor games like cricket, football, badminton, table tennis, volleyball, basketball, futsal, and chess. Besides sports, healthy competitions in the fields of information technology, business and arts are frequently organized by the campus.

Islamabad Campus

The Islamabad campus is situated along the Srinagar Highway, offering a breathtaking vista of the picturesque capital city renowned for its beauty and tranquility. Nestled in such an exquisite locale, the campus provides a captivating and delightful view of the city.

Spanning over 15 acres of land, the campus is strategically located in the academic heart of the city. Its infrastructure, including the newly constructed eight-story academic block, reflects a futuristic approach. With a steadily expanding covered area, the campus's academic programs are continuously evolving.

Our campus boasts a highly qualified, fully committed, and professionally stimulated faculty dedicated to academic excellence. Our faculty members excel in teaching competence and are adept at integrating the latest advancements in science and technology into their instruction. They are accomplished researchers, contributors, and developers in their respective fields, conducting research in areas such as Intelligent Networks, Software Testing, Software Engineering, Machine Intelligence, Image Processing, Neural Networks, Embedded Systems, RF Systems, and Control Systems.

We offer undergraduate programs in Computer Science, Software Engineering, Artificial Intelligence, Data Science, Cyber Security, Electrical Engineering, Robotics, Business Administration, Analytics, and Accounting and Finance. Additionally, we provide Master of Science and Doctor of Philosophy programs in Computer Science, Software Engineering, Artificial Intelligence, Data Science, Computer Networks and Security, Electrical Engineering, and Management Sciences.

Our graduates are highly sought after by both national and multinational corporations, holding prominent positions in companies such as Microsoft, Oracle, NCR, LMKR, IBM, Telenor, and Huawei. The campus is equipped with state-of-the-art facilities for both academic and extracurricular activities. Our spacious and well-equipped computer and engineering labs provide students with practical training, while audio-visually supported and well-furnished classrooms offer an optimal learning environment.

To promote physical fitness and relaxation, we offer sports facilities for indoor and outdoor games, including cricket, football, badminton, table tennis, volleyball, and chess. We also organize healthy programming competitions and events, such as NASCON, a national-level competition highly regarded by both industry and educational institutions across the country.

With over 24 student societies and clubs, we foster co-curricular activities to instill a sense of responsibility and leadership potential in our students.

We look forward to welcoming you to our campus and witnessing the vibrant atmosphere of academic excellence and innovation.

Karachi Campus

The Karachi Campus provides state-of-the-art facilities at two campuses. The Campus offers expertise of dynamic and staunch faculty members, a secure and healthy environment, and a variety of extracurricular opportunities for students to embrace their existing potential. Adequate emphasis has been placed upon espousal of student well – being, which includes provision of quality education and availability of various extracurricular projects. Multiple inter campuses committees, student clubs and societies have been established to encourage the intellectual and social development of students, cumulatively. The Campus, while embolding the entrepreneurial aspirations existing within the students, maintains facilities of Incubation and innovation centre as well. Students are provided with adherent mentoring and support. The esteemed faculty members help the students nurture their novel research and developmental ideas, substantially. The Main Campus is located on a six-acre site in Shah Latif Town on the National Highway, ten kilometers east of Karachi airport. The Campus has spacious, fully air conditioned classrooms, laboratories, auditorium, seminar rooms, sports room and a modern library. All Engineering Labs for power systems Electronics, Electrical, Control Engineering, Signal Processing, Telecommunications, Networking, and Multimedia are fully equipped. Computing labs feature the latest technology computers and workstations that use Linux and Windows-based environments. The Campus upholds a potential network infrastructure and provides seamless connectivity throughout. The Campus maintains a vibrant Research and Development culture. Faculty members are part of research groups. Research seminars, local IEEE, ACM and IET chapters' meetings and seminars are held on a regular basis. Enhancing the capacity building the campus has formed a centre for professional training where periodically different training and seminars are arranged to embrace, improve and retain existing knowledge and skills of the employees and students, respectively. A separate student facilitation centre with a distinctive library, commodious cafeteria, an extensive auditorium, and indoor sports facilities exists within the campus. The campus also includes Gym with latest equipment playgrounds for Cricket, Hockey, Football, Basketball, Badminton, futsal court, Volleyball. An in house Mosque is also available for the students and employees. The Campus extends efficient and comfortable transport services for students and staff to commute easily from varied locations across the city. An independent Placement and student Affairs office exists at Karachi Campus for facilitates the students in job placements and internships. The office arranges various recruitment related events both on campus and externally. The department provides career and skill development counselling to students, which helps them in effective resume writing, job hunting and personality building. This office even participates in resolving general student concerns and arranging various on campus, student engagement events. The Campus maintains a unique Language Lab to teach students English and other foreign languages while preparing them via video cameras, and round table discussions, for both National and International employability. The City Campus is situated on the main Shahrah-e-Faisal (near Nursery), hosts Postgraduate Studies. The City campus retains air conditioned, contemporary classrooms; high tech computer labs, Seminar Hall and an astounding library, integrated with the Main campus Library. All the facilities and services extended at the Main Campus are equivalently accessible for the students of City Campus as well. In addition to the University sponsored financial assistance and scholarships, Karachi Campus also receives scholarships for position holders from the Boards of Sindh and Baluchistan, Sindh Endowment Board Scholarship (40% urban and 60% rural quota, every year up to 40 scholarships), Baluchistan Endowment Board Scholarship, Memon Welfare Association's HEC-JICA etc. These funding, aid the students from challenged social backgrounds to pursue quality education smoothly, throughout their academic tenure. FAST NUCES Karachi campus while extending eminence provides quality education, a conducive learning environment and a creative learning experience to its students throughout their academic tenure.

Lahore Campus

Situated in the central region of Lahore, Faisal Town, the Lahore Campus spans 12.5 acres. The four blocks that make up the campus are a noteworthy addition to Lahore's rich architectural legacy with their distinctive external brickwork and spectacular marble domes. Entire purpose-built classrooms with air conditioning and educational aids, as well as several computer and engineering labs, are the hallmarks of campus facilities. Software engineering, database, programming, and computer application laboratories are all part of the computing labs. The newest workstations, PCs, and services with environments based on Windows and Linux are easily accessible to students. The Engineering laboratories consist of the following: Digital Systems, Communications, Antenna and Microwave, Microprocessors, Embedded Controls, and Electronics. The whole campus is fully equipped with high-speed Local Area Network and the latest wireless hotspots. Moreover, there is an Auditorium, Seminar Hall, Cafeteria, Girls Common Rooms, Day-Care, Medical Center, Career and Placement Office, Student Center, and International Office. In addition, Justice Gul Muhammad Library is facilitating FAST- NUCES, Lahore campus academic and research programs with prosperous information resources. FAST – NU Library is a multi – discipline library having scholarly and research – oriented learning resources on Business Management, Computer Sciences, Civil Engineering, Electrical Engineering, Humanities, Applied Linguistics, and Mathematics. The library has more than 25000 printed books, around 400 centrally subscribed Ebscohost and Pearson e – books, a number of research Journals and Magazines, 13 HEC databases, and 10 national and international newspapers. The campus has facilities for both indoor and outdoor sports which include Football, Volleyball, Badminton, Cricket, Basketball, Lawn Tennis, Table Tennis and Jogging. In addition to the University sponsored financial assistance and scholarships, Lahore Campus also receives scholarships for meritorious students from different Boards of Intermediate and Secondary Education and Punjab Information Technology Board.

Peshawar Campus

The Peshawar campus is located in the vicinity of Hayatabad, a modern residential suburb of Peshawar. Spread over an area of 4 acres, the campus houses an academic and administrative block; constructed in the university's signature red brick architectural style, and a hostel for boys. It offers a conducive environment with green lawns, flora, plantations, and water fountains. The campus is conveniently close to multiple hospitals, markets, residential areas, sports complexes, government offices, and food streets. With multiple routes, transportation via the city's Metro BRT is quite convenient and economical and can be accessed through the university's own metro BRT bus stop.

To add value to the student learning process and academic excellence, the university has state of the art infrastructure and academic resources, along with highly qualified and committed faculty. The faculty are up-to-date with both scientific and technological progresses, industry requirements, and global trends in their respective fields. With one of the best students to faculty ratios, students have more exposure to learning and working closely with them. The campus has state of the art computing, engineering, and computer assisted language/ communications labs. High speed network access to all devices is made available through campus-wide wireless access points. There is a provision of GPU and big-data enabled high performance computing facilities for its research students. There are separate labs for students of all levels who require them to work on their projects and research thesis. The campus also offers co-working spaces and a pre-incubation environment to selected students. The campus library has a collection of over 15,000 unique books, and hundreds of printed research journals. Subscriptions to research journals of IEEE, Springer, Science Direct, and ACM, are made and these can be accessed from student homes through VPN. All classrooms, labs, and halls are fully air-conditioned. For class-room learning, all rooms are equipped with audio/video facilities.

The campus highly encourages its students to get affiliated with various societies of the campus. Students are offered membership of local and regional chapters of the ACM, IEEE, and Microsoft. Technical societies deal with activities related to programming and engineering competitions, whereas social societies include activities associated to travel and hiking, indoor and outdoor sports, E-gaming, religious events, debating and fine arts, music, and other philanthropic activities.

Among the programs offered by the campus, the Bachelor of Science (Electrical Engineering) has the distinction of being one of the first in Khyber Pakhtunkhwa to have received Outcome Based Level II accreditation status by the Pakistan Engineering Council (PEC). Likewise, the various BS computing programs are regularly accredited with the National Computing Education and Accreditation Council (NCEAC). With the input from these accreditation councils, and Industrial Advisory Boards, the curriculum and study plans are highly customized according to the national industrial needs. As such, graduates of the campus are well received by industry and hold prominent positions in national and multi-national corporations.

Chapter-1 Programs Offered and Campuses

DEGREE programs (Undergraduate, Graduate and Postgraduate programs)

S #	Degree program	Programs Offered and Campuses				
		CFD	ISB	KHI	LHR	PWR

Undergraduate programs

S #	Degree program	CFD	ISB	KHI	LHR	PWR
1	Bachelor of Business Administration	√	√		√	
2	Bachelor of Science (Accounting and Finance)		√		√	
3	Bachelor of Science (Artificial Intelligence)		√	√		
4	Bachelor of Science (Business Analytics)		√	√	√	
5	Bachelor of Science (Civil Engineering)				√	
6	Bachelor of Science (Computer Science)	√	√	√	√	√
7	Bachelor of Science (Cyber Security)		√	√		
8	Bachelor of Science (Data Science)		√		√	
9	Bachelor of Science (Electrical Engineering)	√	√	√	√	√
10	Bachelor of Science (Internet of Things)		√		√	
11	Bachelor of Science (Robotics)		√	√	√	
12	Bachelor of Science (Software Engineering)	√	√	√	√	√

Graduate programs

S #	Degree program	CFD	ISB	KHI	LHR	PWR
1	Master of Business Administration	√	√		√	
2	Master of Science (Artificial Intelligence)		√			
3	Master of Science (Applied Linguistics)				√	
4	Master of Science (Civil Engineering)				√	
5	Master of Science (Computer Networks and Security))		√	√		
6	Master of Science (Computer Science)	√	√	√	√	√
7	Master of Science (Data Science)		√	√	√	√
8	Master of Science (Electrical Engineering)	√	√		√	√

S #	Degree program	Programs Offered and Campuses				
		CFD	ISB	KHI	LHR	PWR
9	Master of Science (Management Sciences)		√			
10	Master of Science (Mathematics)				√	
11	Master of Science (Software Engineering)		√			
12	Master of Science (Software Project Management)			√	√	

Postgraduate programs

S #	Degree program	CFD	ISB	KHI	LHR	PWR
1	Doctor of Philosophy (Civil Engineering)				√	
2	Doctor of Philosophy (Computer Science)	√	√	√	√	√
3	Doctor of Philosophy (Electrical Engineering)		√		√	
4	Doctor of Philosophy (Management Sciences)		√		√	
5	Doctor of Philosophy (Mathematics)				√	
6	Doctor of Philosophy (Software Engineering)		√			

Chapter-2 Faculty and Staff
Summary

| Category	Chiniot Faisalabad	Islamabad	Karachi	Lahore	Peshawar	HQ	Total
Faculty	98	209	136	175	43	2	663
Non-Faculty	163	220	170	208	66	44	871
Total staff	**261**	**429**	**306**	**383**	**109**	**46**	**1,534**

Summary of Faculty & Non Faculty
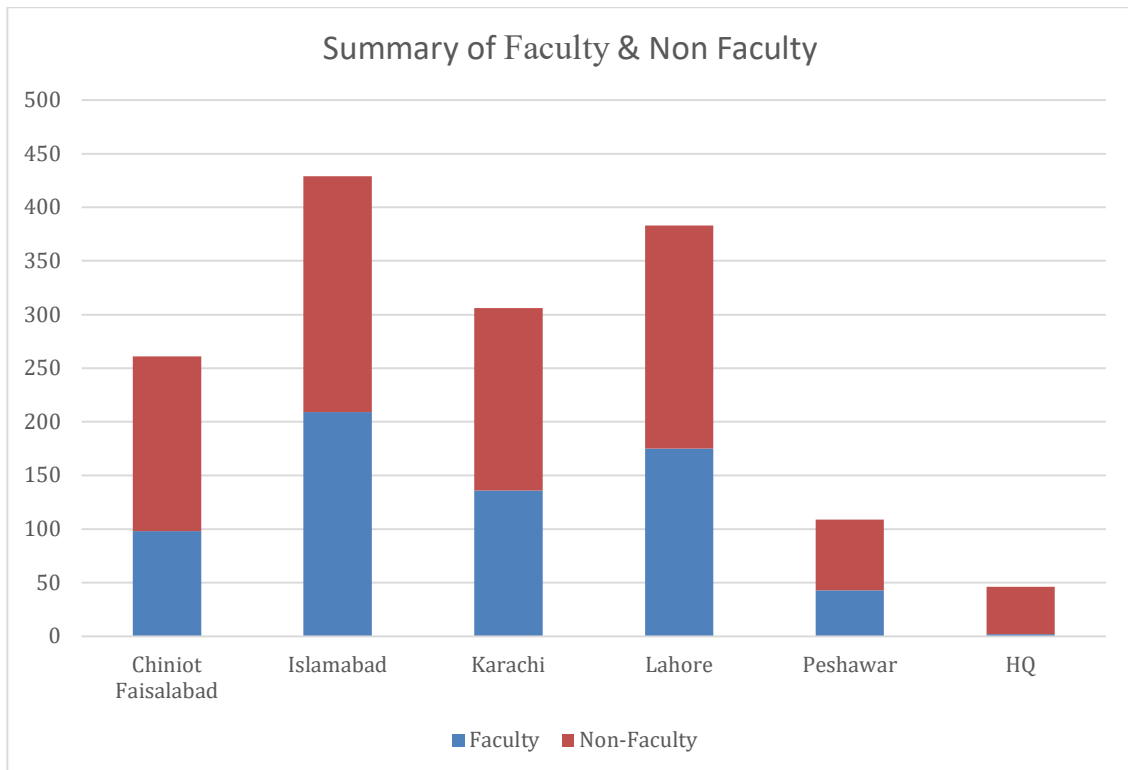
Chiniot-Faisalabad Campus

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Lab Engineer	Total
Artificial Intelligence and Data Science			1	3			4
Computer Science	1	1	11	22	3		38
Electrical Engineering	3	1	4	4		9	21
Management Sciences			3	3			6
Sciences & Humanities		1	5	13	1		20
Software Engineering			3	5	1		9
Total	**4**	**3**	**27**	**50**	**5**	**9**	**98**
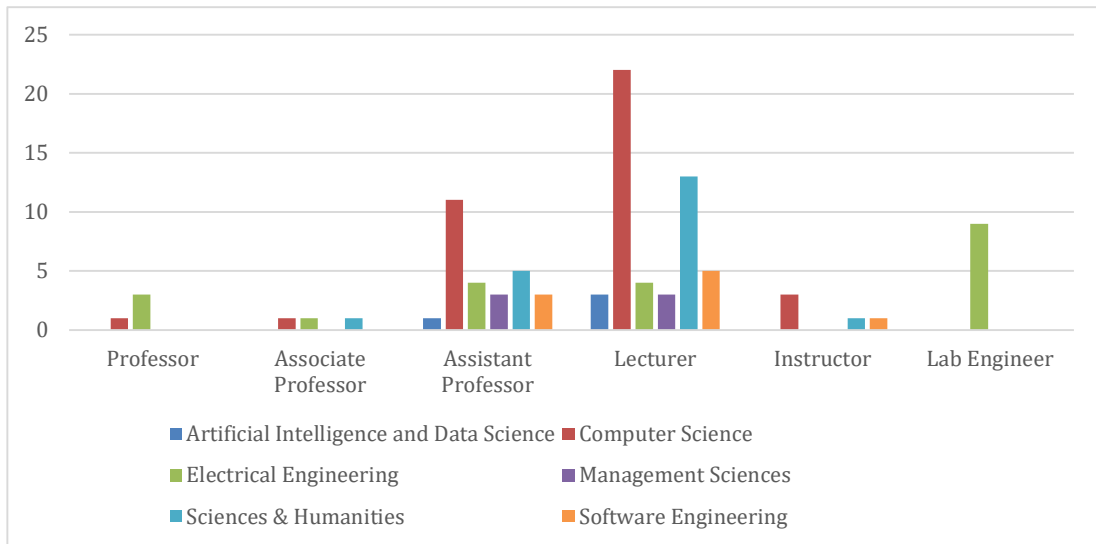
Islamabad Campus

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Lab Engineer	Total
Artificial Intelligence and Data Science	3	1	3	9	4		20
Computer Engineering	1		3	1			5
Computer Science	8	5	13	22	13		61
Cyber Security	1	2	3	4	1		11
Electrical Engineering	4	1	10	5		8	28
Management Sciences	3	3	17	8	2		33
Sciences & Humanities	3	2	10	15	6		36
Software Engineering	1	3	5	6	2		17
Total	24	17	64	70	28	8	211
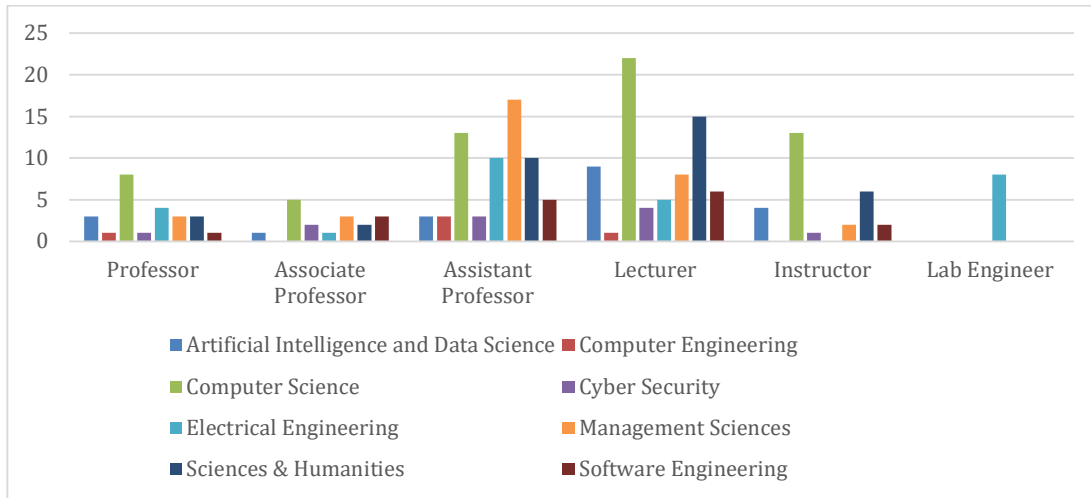
Karachi Campus

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Lab Engineer	Total
Artificial Intelligence and Data Science	1		1	4			6
Computer Science	4	3	19	30	3		59
Cyber Security	1		2	4	1		8
Electrical Engineering		2	6	6		4	18
Management Sciences		1	3	2			6
Sciences & Humanities		1	6	27	1		35
Software Engineering		1		2	1		4
Total	6	8	37	75	6	4	136
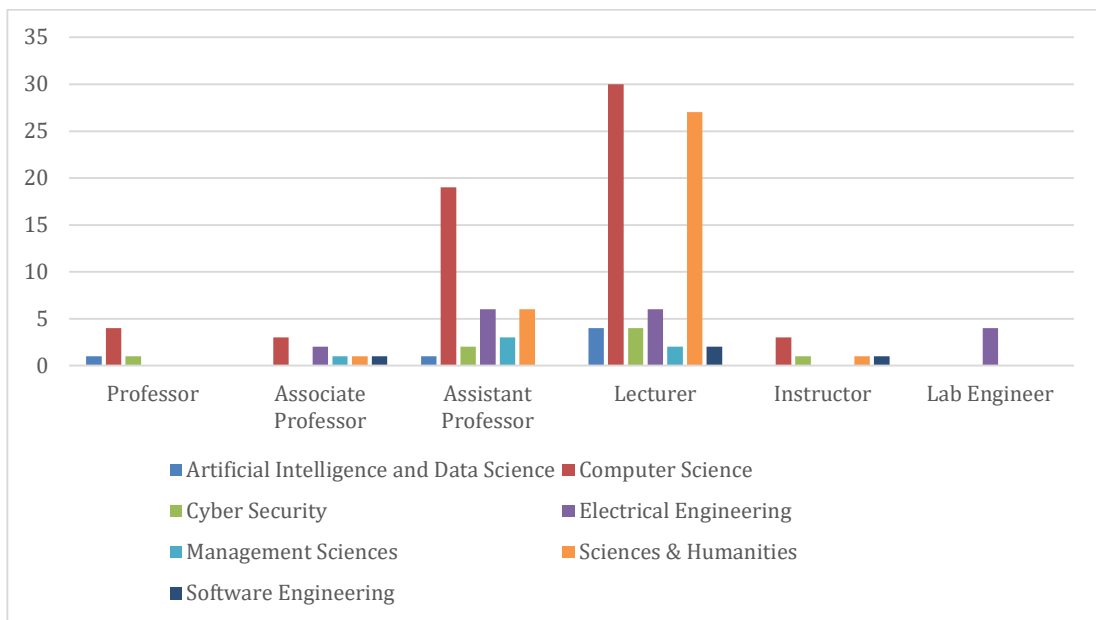
Lahore Campus

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Lab Engineer	Total
Artificial Intelligence and Data Science	1	1	2	4			8
Civil Engineering	2	4	8	7		5	26
Computer Science	5	3	25	16	2		51
Cyber Security		2					2
Electrical Engineering	3	2	10	6		4	25
Management Sciences	1	1	16	10			28
Sciences & Humanities	5	2	10	9	1		27
Software Engineering		1	2	5			8
Total	17	16	73	57	3	9	175
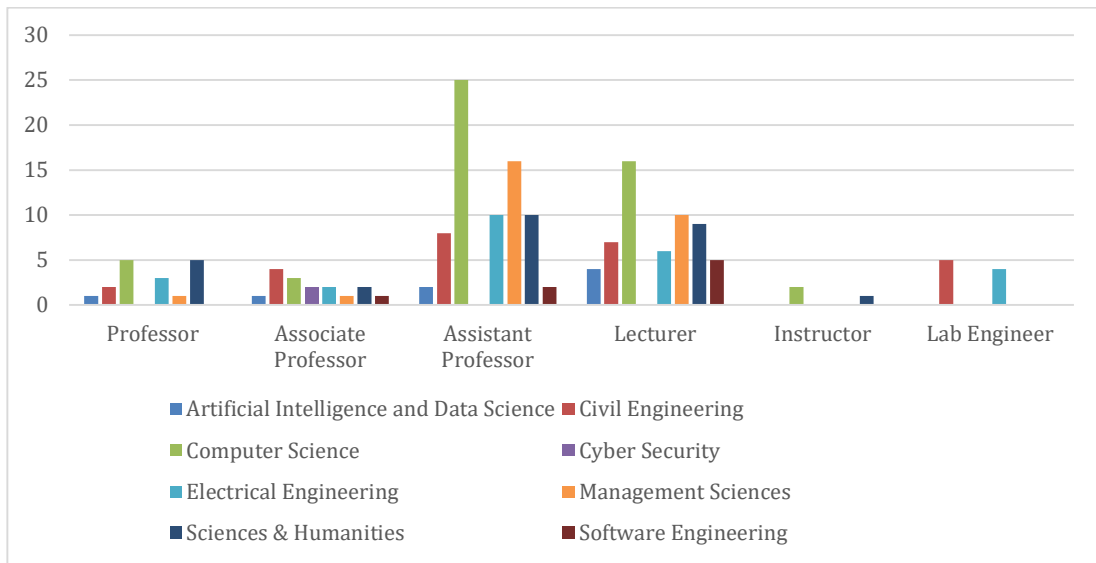
Peshawar Campus

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Lab Engineer	Total
Computer Engineering			3			2	5
Computer Science	1	3	8	6	5		23
Electrical Engineering			3	2		3	8
Sciences & Humanities			3	3	1		7
Total	1	3	17	11	6	5	43
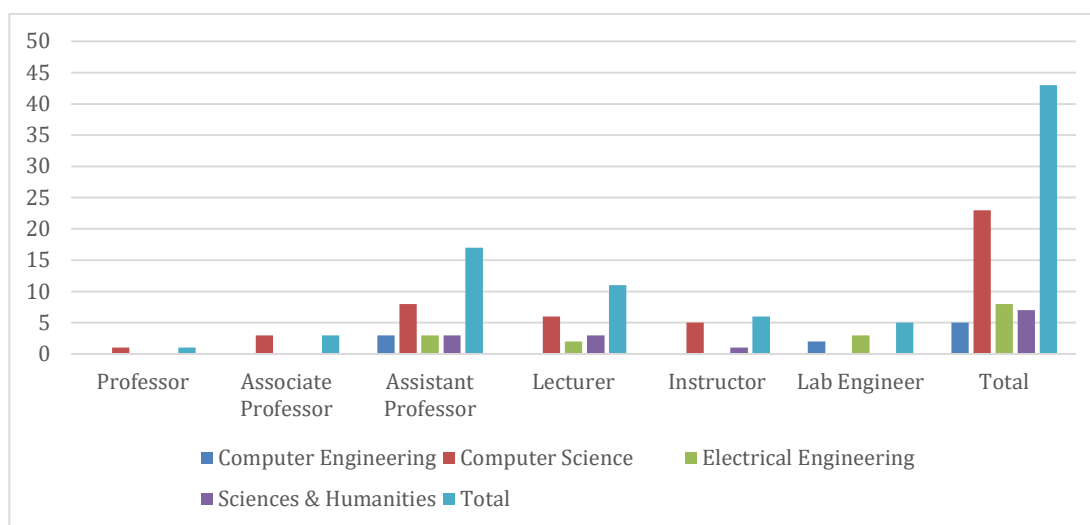
Chapter-3 Students' Profile

Applications Statistics (Discipline Wise)

		BBA	BS(AF)	BS(AI)	BS(BA)	BS(CS)	BS(CV)	BS(CYS)	BS(DS)	BS(EE)	BS(IoT)	BS(Robo)	BS(SE)	Total
CFD	Applicants	1				24				4			9	38
	Offers					14				3			5	22
ISB	Applicants	30	12	40	1	278		20	3	30		6	90	510
	Offers	22	9	26	1	36		18	13	22	5	17	21	190
KHI	Applicants			3		55				1		2	6	67
	Offers					30				1		2	8	41
LHR	Applicants	7	5		2	258	17		11	23		7	49	379
	Offers	7	6		3	33	7		4	14	1	8	24	107
PWR	Applicants					3				2			4	9
	Offers					2							2	4
	Total Applicants	38	17	43	3	618	17	20	14	60		15	158	1003
	Total Offers	29	15	26	4	115	7	18	17	40	6	27	60	364

Graduation Summary

		BBA	BS (AF)	BS (AI)	BS (BA)	BS (CS)	BS (CV)	BS (CY)	BS (DS)	BS (EE)	BS (FT)	BS (SE)	G. Total
	Karachi	8	0	0	0	339	0	0	0	56	0	0	403
	Lahore	115	45	0	0	297	61	0	0	81	0	0	599
2021-22	Islamabad	107	61	0	0	259	0	0	0	54	0	0	481
	Peshawar	0	0	0	0	54	0	0	0	41	0	0	95
	Faisalabad	25	1	0	0	278	0	0	0	73	0	0	377
	G. Total	255	107	0	0	1227	61	0	0	305	0	0	1955

		MBA	MBA (1.5)	MS (AF)	MS (CNS)	MS (CS)	MS (CV)	MS (DS)	MS (EE)	MS (Ling)	MS (MG)	MS(Math)	G. Total
	Karachi	0	0	0	14	25	0	66	3	0	0	0	108
	Lahore	55	1	10	0	55	32	19	12	11	0	12	207
2021-22	Islamabad	40	0	0	8	30	0	39	29	0	9	0	155
	Peshawar	0	0	0	0	1	0	1	8	0	0	0	10
	Faisalabad	11	0	0	0	15	0	0	14	0	0	0	40
	G. Total	106	1	10	22	126	32	125	66	11	9	12	520

		MS (SE)	MS (SPM)	MS (AI)	MS (BA)	PhD (CS)	PhD (EE)	PhD (Math)	PhD (MG)	PhD (MS)	PhD (SE)	PhD (CV)	G. Total
	Karachi	0	38	0	0	3	0	0	0	0	0	0	41
	Lahore	0	31	0	0	1	0	3	0	1	0	0	36
2021-22	Islamabad	20	0	10	0	1	1	0	1	0	2	0	35
	Peshawar	0	0	0	0	4	2	1	0	0	0	0	7
	Faisalabad	0	0	0	0	0	0	0	0	0	0	0	0
	G. Total	20	69	10	0	9	3	4	1	1	2	0	119

Chapter-4 Office of Research, Innovation and Commercialization (ORIC)

Overview

ORIC was established to channelize research and innovation led initiatives. It offers services connected to research and development, innovation, commercialization, collaboration, capacity building and facilitates researchers in the processing of project/research grants. Research and Development has become the centre stage at the National university of Computer and Emerging Sciences. To encourage and recognize the research culture, several policies have been developed to sustain and scale up the momentum of research productivity. Office of Research, Innovation, and Commercialization (ORIC) is playing a central role in creating awareness about emerging research activities, guiding the faculty, supporting during proposal stage and continual guidance through life cycle of a research project. The concerted efforts by the ORIC Team under the mentorship of the Rector has witnessed an overwhelming escalation in the research and development accomplishments and collaborations with the industry and universities.

The canvassed portfolio of the research and development activities is intended to inspire faculty and students to become partners in this journey through active role in the research and development initiatives of the university.

Vision

The vision of ORIC is to promote research and innovation in the local context.

Mission

To take Pakistan forward by continuously improving quality of research, building partnerships with the industry, and being able to capitalize on outcomes that result from research and development activities.

Functions

- Encourage pragmatic research in the context of Pakistan's socio-economic needs
- Identify and inform the faculty members about research opportunities
- Facilitate joint research ventures and academic collaborations
- Promote publication of research work being conducted in the University
- Assist faculty in acquiring funds from international and national funding agencies
- Promote entrepreneurship, technology - transfer and commercialization activities that support both local and national economies
- Commercialize research in collaboration with industry
- Arrange awareness seminars, symposia and workshops for the benefit of faculty and students

Services
- Educate faculty about university research policy and process grant requests
- Develop, maintain, and communicate pre- and post-award administrative procedures for externally sponsored projects
- Support faculty regarding contracts, progress reports, and other sponsor grants actions
- Connect faculty and students with prospective industrial partners
- Assist students, faculty and alumnus in pursuit of technological or social innovations
- Mentor the promising start-ups during the initial period when they are most susceptible
- Assist in patent filing and licensing
- Keep web and social media presence to share the latest research, scholarship, and entrepreneurial opportunities

ORIC Team

Name	Designation
Dr. M. Uzair Khan	Director ORIC
Engr. M. Aatif Saif Khan	Manager Research Management
Mr. Rana Ayaz	Manager Innovation & Commercialization
Ms. Seemab Siddique	Research Officer
Ms. Sayeda Sadia Batool	Grants Management Officer
Ms. Aysha Shafiq	Assistant Manager (Career Services, Chiniot Faisalabad Campus)
Mr. Ahmad Quddusi	Assistant Manager (Career Services, Islamabad Campus)
Ms. Aysha Siddiqui	Officer (Career Services, Karachi Campus)
Mr. Bashir Muhammad	Manager (Career Services, Lahore Campus)
Mr. Riaz Nawab	Officer (Career Services, Peshawar Campus)

Organogram
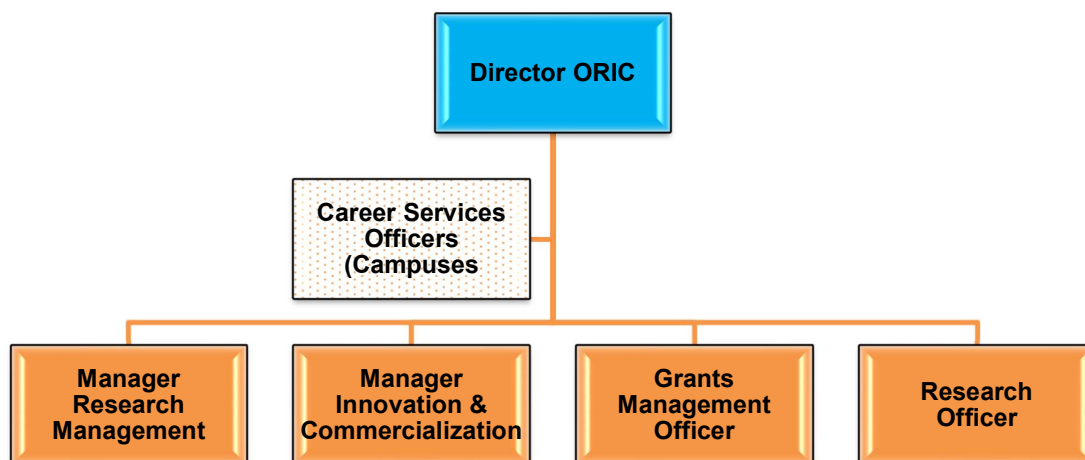
Accomplishments

Noteworthy achievements of our department include:

- The ORIC was formally notified by HEC in the academic year 2021-2022. The HEC team led by their Director Research & Innovation Division appreciated the efforts put-up by the University Management and ORIC team for nurturing a favourable environment for research, innovation, collaboration and commercialization of the faculty led efforts.
- Policies were framed to streamline processes for the smooth execution of the extramural funding, Research Rewards, Research Ethics, intramural research funding for the fresh and experienced researchers (Faculty Research Support Grant), international and inland travel grants, In-kind Research Support, Technical Entrepreneurship for Faculty, FYPs, Plagiarism, etc. to improve pedestal of research and development. These policies collectively contribute to improving the research and development landscape, promoting transparency, accountability, and excellence in all aspects of research activities within the university.
- Identified avenues of research fund raising, mobilized faculty, partnered with the business community and industry for research commercialization.
- Incessantly educated faculty about emerging research avenues that resulted in over 60 research proposals submissions for external research funding in the period 2021 - 2022.
- Competitive research grants from ERASMUS, HEC, and other funding agencies were secured in the period 2021-2022.
- Research rewards are worth Rs. 14.5 million were distributed during the period 2021-2022 to incentivize and acknowledge outstanding research publications.
- The university actively facilitates the strengthening of academia-industry collaborations through meetings, MOUs, and consultancy agreements aimed at addressing industry challenges. Notable partnerships include engagements with NESCOM, CURE MD and PTCL, among others.
- To expand faculty members' research experience, ORIC has indigenously started intramural funding through Faculty Research Support Grant (FRSG) with an impressive outlay of Rs. 10.485 million for 19 Projects in the period 2021 - 2022.

    As part of the ongoing capacity-building initiatives, more than 440 activities have been conducted across all five NUCES campuses. These programs have offered valuable opportunities for professional development and networking, significantly enhancing the expertise and skills of our team members.

Campus Name	Financial Year 2021-2022
CFD	37
ISB	245
KHI	42
LHR	111
PWR	5

- The portfolio of ORIC extramural funding expands to have a lab affiliated with each of the 4 National Centers in Emerging Technologies funded by the Public Sector Development Program (PSDP): National Center of Artificial Intelligence, National

Center of Big Data & Cloud Computing, National Center of Robotics & Automation and National Center of Cyber Security.

- The NUCES encourages international collaborative research. The faculty researchers are executing European Union's ERASMUS projects.
- A host of research projects with the defence and commercial verticals are also being executed.
- In 2021-2022, under the ORIC umbrella, NUCES successfully organized six international conferences: INMIC, APIC, ICETST, IEEE WFAIR, ACCE, and ICIT. These conferences attracted renowned speakers from both international and local backgrounds, enriching academic discourse and knowledge sharing. Looking ahead, we have scheduled two international conferences, ICET and ICIT, for 2023, with several other exciting events in the pipeline. These upcoming conferences promise to bring together experts and thought leaders from various fields to foster innovation, collaboration, and the exchange of ideas.
- During the period of 2021-2022, our department inked 30 Memorandums of Understanding (MoUs) with a diverse range of national and international universities, as well as industrial organizations. These MoUs were strategically crafted to foster collaborations between academia and industry, aiming to promote knowledge exchange, joint research initiatives, and mutually beneficial partnerships. Through these collaborative efforts, we have been able to bridge the gap between theoretical knowledge and practical application, facilitating innovation and creating avenues for impactful research outcomes.
- National Grassroots ICT Research Initiative (NGIRI) program under Ignite aims to assist final year undergraduate students of ICT related disciplines by providing them financial assistance for developing prototypes / working models of their Final Year Projects (FYP) in order to increase creativity, innovation, and hands on engineering and development skills. The University has been participating in the programme and won over 160 projects from 2014 - 2022.
- We have successfully executed the task of designing and revitalizing the University's newsletter with the aim of promoting our brand, showcasing the capabilities and expertise of our faculty and students, and highlighting their notable achievements from 2021-2022. The renovated newsletter serves as a powerful platform to disseminate information about our institution, including academic endeavours, research breakthroughs, and impactful contributions across various fields. By effectively communicating our successes and expertise, the newsletter plays a vital role in enhancing the visibility and reputation of the University, while fostering a sense of pride and engagement within the academic community.
- We maintain an incessant social media presence, actively sharing a wide range of local and international opportunities, including emerging research, entrepreneurship, and placement prospects for our faculty and students. By leveraging our Facebook page at https://www.facebook.com/FASTNUORIC/, we effortlessly disseminate information about these opportunities, ensuring that our audience is well-informed and connected to a wealth of exciting prospects at the click of a mouse.
- Incubation Center is operational at Peshawar campus for students. It is networked with entrepreneurial hub for mentoring the incubates. A MOU was also signed with National Incubation centre (NIC), Islamabad, in which it was agreed that NIC will help NUCES Students in the process of Start-ups.
- ORIC is supporting its faculty members/researchers in establishing their technical start-ups in the trademark and patent filing processes. Professor Dr. Jawwad A. Shamsi, Department of Computer Science of the Karachi Campus has successfully filed the

trademark for his start-up (iParahi). He is also working on filing the patent application for his upcoming product.

- ORIC has been regularly sharing exchange programs and international internship opportunities for students. After relaxation in the Covid-19 restrictions, it is expected that students will be able to avail professional opportunities under these organizations in 2023.
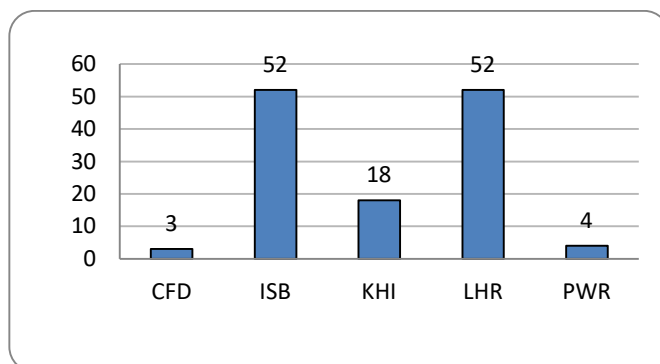
Chapter-5 Research & Development

Campus Wise information of Journal Articles and Conference Papers

	Journal Articles
Chiniot-Faisalabad	87
Islamabad	163
Karachi	45
Lahore	154
Peshawar	33
G. Total	**482**
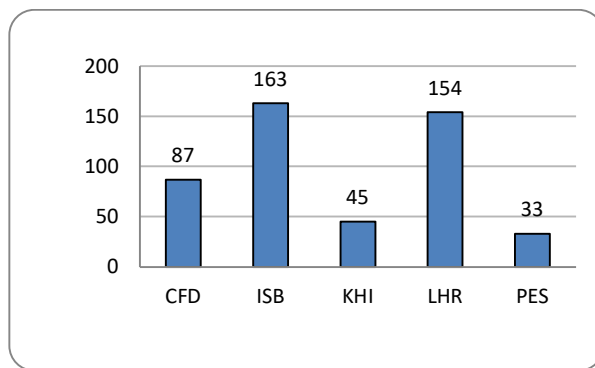
	Conference Papers
Chiniot-Faisalabad	3
Islamabad	52
Karachi	18
Lahore	52
Peshawar	4
G. Total	**129**

Department Wise information of Journal Articles and Conference Papers

	Journal Articles
Civil Engineering	16
Computer Science	172
Electrical Engineering	93
Management Sciences	55
Sciences & Humanities	146
G. Total	**482**
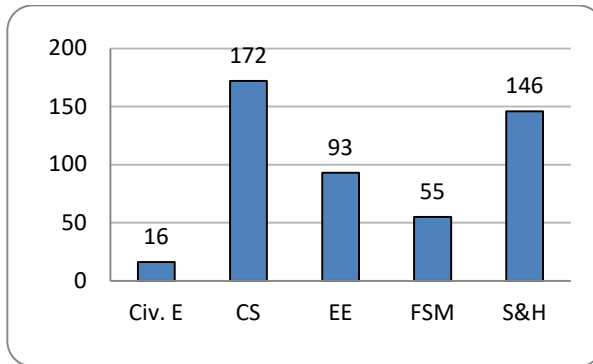
	Conference Papers
Civil Engineering	8
Computer Science	60
Electrical Engineering	23
Management Sciences	10
Sciences & Humanities	28
G. Total	**129**
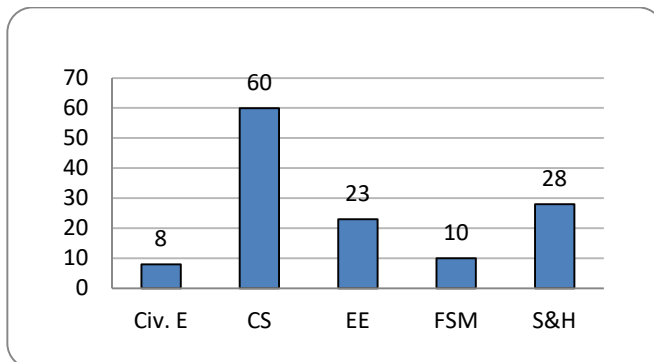
Campus wise impact factor publications

	Impact Factor Publications
Chiniot-Faisalabad	70
Islamabad	126
Karachi	30
Lahore	116
Peshawar	33
G. Total	**375**
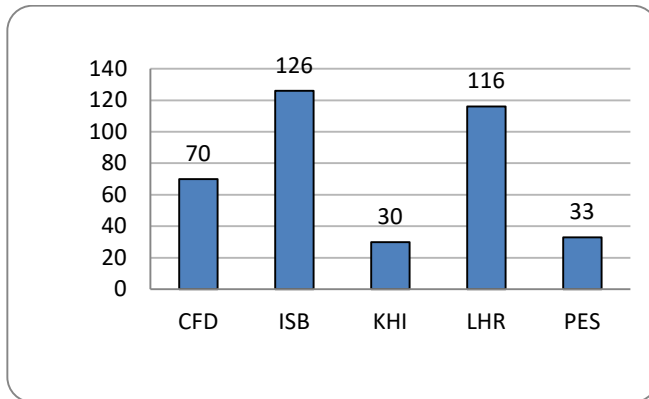
Department wise impact factor publications

	Impact Factor Publications
Civil Engineering	13
Computer Science	152
Electrical Engineering	74
Management Sciences	24
Sciences & Humanities	112
G. Total	**375**
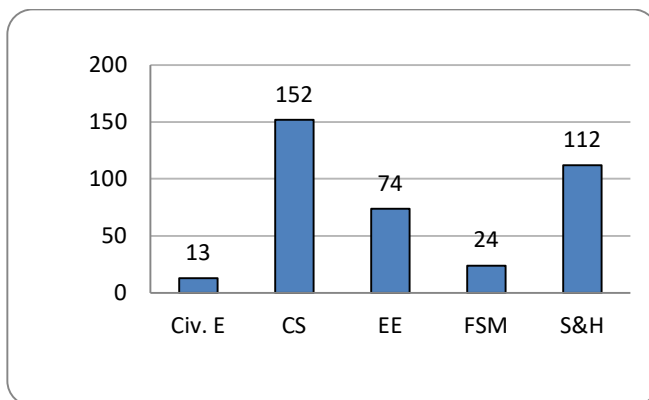
Chapter-6 Quality Assurance

FAST-NUCES is determined to manage quality assurance through its designed processes to bring continuous improvement in its teaching - learning and research. Being the final processing point of the graduates for the market, QEC designs and implements adequate quality assurance mechanisms to ensure that graduates are satisfactorily equipped with requisite skills and competencies to meet present day workforce requirements. QEC at NUCES-FAST is taking deliberate steps to bring about continual improvement in the effectiveness of the learning experience of students. In QEC, there is great emphasis on Quality Assessment and encouragement of institutional "Quality Culture". In this regard, QEC is responsible to ensure that all the quality related policies, standards and guidelines issued by Higher Education Commission (HEC) are being implemented in true spirit.

Vision
Support the University's vision by adapting best practices suggested by accreditation bodies while conforming with the university policies.

Mission
Adapt existing state-of-the-art higher education quality improvement strategies, while engaging with all stakeholders.

Objectives
1. Enhancing the pedagogical skills of the instructors to achieve learning outcomes of curriculum and effectively engage with the students.
2. Provide coaching related to the processes and procedures prescribed by the accreditation bodies, to the academic staff.
3. To communicate and coordinate with all the stakeholders (students, instructors, staff, alumni, employers, subject experts, etc.) for feedback with the aim of improvement of education quality.
4. Formulate analytical reports extracted from the received feedback from the stakeholders, i.e., surveys related to infrastructure, teacher evaluation, alumni, employer etc. and provide recommendations to the statutory bodies of the university.
5. Promote automation of quality related processes to develop an effective, viable and sustainable ecosystem of quality assurance at the university.
6. Ensuring the compliance of quality assurance procedures in accordance with the guidelines provided by HEC and accreditation councils.
7. Provide assistance to academic departments to meet the expectations of accreditation bodies in terms of data gathering and reporting.
8. Tailor curricular and co-curricular activities to meet the requirements of ranking organizations.

Quality Enhancement Cell (QEC) implements internal quality assurance (IQA) mechanism of the university. QECs are established in all campuses and are run as per HEC guidelines. QEC at NUCES is constantly striving to maintain excellent scores in the annual quantitative assessment of HEC. This achievement in IQA directly contributes to achieving higher accreditation status from relevant accreditation councils, working under external quality assurance (EQA) mechanism of HEC. The recognition at both IQA and EQA clearly demonstrates NUCES-FAST efforts to burgeon quality standards of education at all levels.

Consequently, FAST-NU QEC introduced innovative strategies to manage more effectively the internal quality assurance processes of the institution by providing quality academic programs and holistic teaching-learning environment to the students at undergraduate and graduate level. At FAST-NU we regularly conduct surveys in order to collect valuable feedback from various stakeholders including students, faculty, alumni, industry and others. This feedback is used to take the required measures for an overall improvement in the quality culture. Moreover, we give prime importance to the capacity building of our faculty, wherein, training workshops/ sessions have been organized by QEC for the faculty members and Teaching Assistants, so that they are equipped with all the necessary skills for delivering quality lectures. Further, at program level it is assured that all the undergraduate programs being offered at FAST-NU are accredited by the relevant regulatory authorities and the graduate programs are self-assessed to monitor the implementation of requisite policies.

Currently NUCES QEC is a member of the International Network for Quality Assurance Agencies in Higher Education (INQAAHE) and American Society for Quality (ASQ). These memberships offer ample opportunities to collaborate with the international members for benchmarking and standardization of best practices. Moreover, NUCES QEC also participates in their international events, as a significant contributor and participant.

QEC Organogram
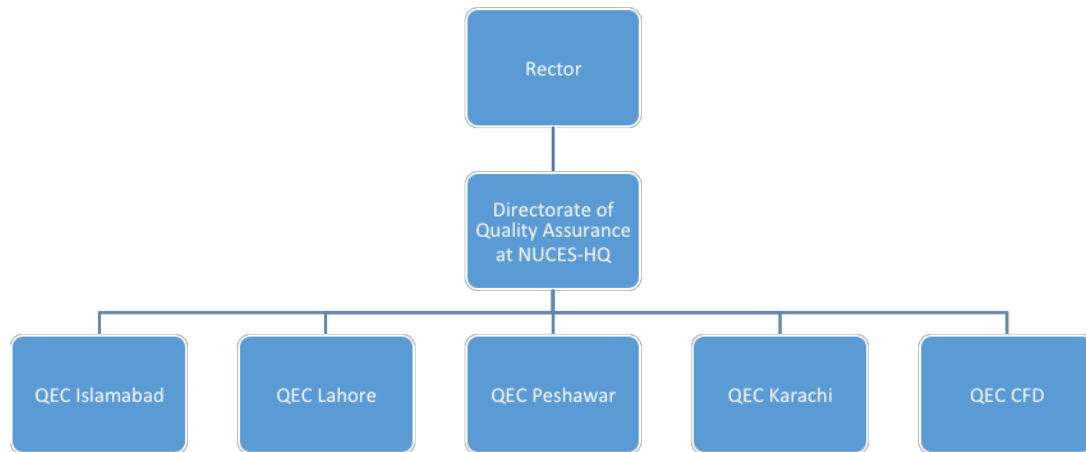
Quality Assurance in Higher Education Institutions

On Thursday, 10th February 2022, Ms. Urooj Laghari, Assistant Manager, Quality Enhancement Cell (QEC) at FAST-NU, Karachi Campus participated in the seminar at NED University of Engineering and Technology, Karachi seminar on "Implementation of Modern Tools and Methodologies for Quality Assurance in Higher Education Institutions".

The session was facilitated by Dr. Asif A.Shaikh, Director QEC at NED UET, Dr. M. Asif, Director QEC at Ziauddin University, Ms. Sanam Soomro, Director QEC, DUHS and Dr. M.Wasif, Dy.Director QEC at NED UET.

Self-Assessment Review of BBA Program

On Thursday 9th March 2022 the Self-Assessment Review (SAR) of the BBA program was organized by Ms. Urooj Laghari, Assistant Manager Quality Enhancement Cell (QEC) in coordination with the FAST School of Management Sciences. Dr. Muhammad Adnan Bashir, Assistant Professor, Department of Marketing, College of Business Management, Institute of Business Management, Karachi was the external evaluator and Dr. Syed Muhammad Fahad Riaz, Assistant Professor & In-charge of Sciences & Humanities Department, FAST-NUCES, Karachi Campus was internal evaluator. Dr. Nazia Nazeer, Assistant Professor and the Head of department, FAST School of Management Sciences briefed the AT team about the progress of the department. The program team members Dr. Muhammad Saad, Assistant Professor, FAST School of Management Sciences and Mr. Mohammad Ahsan, Assistant Professor, FAST School of Management Sciences also joined. The agenda of the meeting was to review and validate the SAR findings of the BBA program in compliance with the HEC requirements.

Dr. Mohammad Atif Tahir, Campus Director & Professor of FAST School of Computing also joined and expressed his appreciation and gratitude to the Assessment Team and the Program Team members at the end of the review. The meeting ended on a successful note.

A 2-Day Review Panel Visit to Peshawar Campus for MS/PhD Program Review

A Review Panel visited NUCES(FAST), Peshawar Campus for evaluation of structural setup MS and PhD programs offered at the campus. The visit was arranged by PWR-QEC on Thursday 24th and Friday 25th of February 2022. During the visit, program files, student files, and faculty files were reviewed by the panel. Moreover, the panel interacted with faculty members and students of both programs. The visit concluded with the submission of a report to the Campus Director consisting of their observations and suggestions for improvement of the programs. Eminent members review panel were Dr. Hassan Ali Khattak, Associate Professor, School of Electrical Engineering & Computer Science (SEECS), NUST, Islamabad, and Dr. Suhail Yousaf, Assistant Professor, Department of Computer Science & IT, University of Engineering and Technology (UET), Peshawar.

An Assessment Team Visit to Peshawar Campus for Evaluation of MS Electrical Engineering

An Assessment Team (AT) visited Peshawar Campus for evaluation of MS Electrical Engineering on Monday 3-January-2022. Dr. Fawad Khan, Assistant Professor, Military College of Signals, National University of Science and Technology (NUST), Rawalpindi, and Dr. Usman Abbasi, Assistant Professor, Department of Electrical Engineering, NUCES, Peshawar were the invited subject experts for evaluation of the program. During the visit, the team evaluated the program while reviewing the Self-assessment Report, interacting with faculty members, interviewing students, and visiting departmental facilities. The visit concluded with the sharing of findings in the form of a report by the AT. The visit was convened by PWR-QEC.

An Assessment Team Visit to Peshawar Campus for Evaluation of MS Computer Science

An Assessment Team (AT) visited Peshawar Campus for evaluation of MS Computer Science on Tuesday 22nd February 2022. Dr. Tamleek Ali Tanveer, Associate Professor, Department of Computer Science from IMSciences Peshawar, and Dr. Muhammad Taimoor Khan, Assistant Professor, Department of Computer Science, NUCES, Peshawar Campus was the members AT. During the visit, the team evaluated the program while reviewing the Self-assessment Report, interacting with faculty members, and visiting departmental facilities. The visit concluded with the sharing of AT findings and report with the higher management. The visit was convened by PWR-QEC.

An Assessment Team Visit to Peshawar Campus for Evaluation of MS Electrical Engineering

An Assessment Team (AT) visited Peshawar Campus for evaluation of MS Electrical Engineering on Monday 3-January-2022. Dr. Fawad Khan, Assistant Professor, Military College of Signals, National University of Science and Technology (NUST), Rawalpindi, and Dr. Usman Abbasi, Assistant Professor, Department of Electrical Engineering, NUCES, Peshawar were the invited subject experts for evaluation of the program. During the visit, the team evaluated the program while reviewing the Self-assessment Report, interacting with faculty members, interviewing students, and visiting departmental facilities. The visit concluded with the sharing of findings in the form of a report by the AT. The visit was convened by PWR-QEC.

Self-Assessment Visit of MS and PhD-EE Programs

QEC Lahore Campus conducted a Self-Assessment Visit of MS-EE and PhD-EE programs on 18th February 2022, Friday. Dr. Engr. Ejaz A. Ansari, Associate Professor, Head of Department, Electrical and Computer Engineering, COMSATS, Lahore, was invited as an external evaluator. Program team consists of two faculty members from Department of Electrical Engineering i.e. Dr. S.M. Sajid (Professor, Convener QEC Committee) (Internal AT member) and Mr. Haris Mujtaba Kazmi (Assistant Professor) (Internal AT member). The visit starts with the opening meeting of external evaluator with AT Team, Program Coordinators and QEC Team. The panel worked on SAR, afterwards infrastructure visit and meeting with faculty and students was also part of the visit. The visit was concluded with

an exit meeting with Dean Engineering, Dr. S.M. Sajid on behalf of Director Campus Dr. Hammad Naveed, HoD Department of Electrical Engineering Dr. Saima Zafar, AT Team, Program Coordinators and QEC Team. The external evaluator presented the findings in the exit meeting. At the end Dean Engineering, Dr. S.M. Sajid presented a shield to Dr. Ejaz on behalf of Director Campus and a group photo was taken.

Chapter-7 Financial Support to Students

A. Internal Sponsorships

1. Merit Scholarships for Bachelor Students

Merit scholarship is awarded to the **Top Three** position holders of each Examination Board.

Scholarship is also offered to the top three position holders in the NU admission merit list of each campus. Students awarded merit Scholarship, 100% tuition fee for 8 regular semesters must maintain a CGPA of ≥ 3.00 in each semester.

2. Study Loan

Realizing that fees may not be affordable for some of the students, FAST-NU arranges financial assistance in the form of interest-free study loans for bright indigent students.

Rules for Internal Sponsorships:

i. Internal sponsorships are available for Studying in regular semesters (spring and Fall). The following is the maximum number of semesters for which it can be availed.
   - Bachelor's   8 semesters
   - Master's   4 semesters
   - PhD   6 semesters

ii. It shall not be available for repeat or withdrawn course. This implies that it is available for studying a course only once.

iii. It is suspended if the student's CGPA falls below the minimum specified to avoid warning and shall be restored upon getting out of warning by improvement in CGPA.

iv. It shall be limited to tuition fee only.

B. External Sponsorships

1. Provincial Assistance

Awarded as per provincial laws and regulations.
- Sindh Government Endowment Board Scholarships
- Punjab Educational Endowment Fund (PEEF) Scholarships
- Baluchistan Government Endowment Board Scholarship

2. HEC Scholarships for MS and PhD students

The Higher Education Commission (HEC) provides liberal scholarships to students desirous of studying for MS and PhD degrees at this university. The scholarship covers tuition fee, monthly stipend, and book allowance.

3. OSAF Scholarships

OSAF (Old Students Association of FAST) arranges financial assistance for those students who cannot afford to pay their full fee.

4. FANA Scholarship

FAST Alumni of North America provide funds for financial assistance for students who cannot afford to pay their full fee.

5. **Ihsan Trust Financial Assistance**

   Ihsan Trust financial assistance for students who cannot afford to pay their full fee.

6. **Other Scholarships**

   In addition to the above scholarships there are various community-based scholarships offered by various committees and foundations such as, Memon Community Scholarships, Bohra Community Scholarships, Agha Khan Foundation Scholarships, Ihsan Trust Sponsorship, General Refaqat Memorial Scholarship, etc.

Transport Facility

Chiniot-Faisalabad Campus

The University has arranged buses to operate between the campus and designated points in various localities of Faisalabad. This transport facility is available on a self-finance basis.

Islamabad Campus

A few private transporters operate mini-buses between the campus and designated points in various localities of Rawalpindi and Islamabad on a self-finance basis. The university also provides a limited number of buses to pick and drop students from selected points on a self-finance basis.

Karachi Campus

The University arranges secure and safe, comfortable buses and coasters to pick students from selected points in different localities of Karachi. The transport facility is available on a subsidized self-finance basis.

Peshawar Campus

The university provides limited transport facilities to pick and drop students from selected points in Peshawar City to the campus. This facility is available on a self-finance basis.

Chapter-8 Health Care Facilities

FAST-NUCES Administration is fully conscious of facilitating its employees within its resources. Employees Health Insurance Scheme was launched to provide the best health care facilities to the employees of NUCES. The Policy has proved enormously beneficial for the university employees and their families. Health Insurance Coverage is provided to all faculty members, officers and administrative staff of FAST-NUCES for cost effectiveness and timely medical facilitation.