ANNUAL REPORT
OF THE UNIVERSITY
FOR THE YEAR 2022-2023

NATIONAL UNIVERSITY
of Computer & Emerging Sciences

FAST House, Rohtas Road, G-9/4

ISLAMABAD, PAKISTAN

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Contents

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 potentials. 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 student's 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 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 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 pre-incubation environment to selected students. The campus library has a collection of over 15,000 unique books, and hundreds of printed research journals. Subscription 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 the industry and hold prominent positions in national and multi-national corporations.

Chapter-1 Programs Offered and Campuses

DEGREE programs (Undergraduate, Graduate and Postgraduate programs)

Program	Chiniot-Fsd	Islamabad	Karachi	Lahore	Peshawar
Bachelor's Degree Programs					
1. BBA	✓	✓		✓	
2. BS (Accounting & Finance)		✓		✓	
3. BS (Artificial Intelligence)	✓	✓	✓		✓
4. BS (Business Analytics)	✓	✓	✓	✓	
5. BS (Civil Engineering)				✓	
6. BS (Computer Science)	✓	✓	✓	✓	✓
7. BS (Cyber Security)		✓	✓		
8. BS (Data Science)		✓		✓	
9. BS (Electrical Engineering)	✓	✓	✓	✓	✓
10. BS (Fintech)		✓			
11. BS (Robotics & Automation)	✓	✓	✓	✓	
12. BS (Software Engineering)	✓	✓	✓	✓	✓
Master's Degree Programs					
1. MBA	✓	✓		✓	
2. MS (Applied Linguistics)				✓	
3. MS (Artificial Intelligence)		✓		✓	
4. MS (Business Analytics)		✓		✓	
5. MS (Civil Engineering)				✓	
6. MS (Computer Networks & Security)		✓	✓		
7. MS (Computer Science)	✓	✓	✓	✓	✓
8. MS (Data Science)		✓	✓	✓	✓
9. MS (Electrical Engineering)	✓	✓	✓	✓	✓
10. MS (Management Sciences)		✓			
11. MS (Mathematics)				✓	
12. MS (Software Engineering)		✓			
13. MS (Software Project Management)			✓	✓	
PhD Programs					
1. PhD (Civil Engineering)				✓	
2. PhD (Computer Science)	✓	✓	✓	✓	✓
3. PhD (Electrical Engineering)	✓	✓		✓	
4. PhD (Management Sciences)		✓		✓	
5. PhD (Mathematics)				✓	
6. PhD (Software Engineering)		✓			

Chapter-2 Faculty and Staff
Summary

| Category	Chiniot Faisalabad	Islamabad	Karachi	Lahore	Peshawar	HQ	Total
Faculty	100	229	162	191	49	2	733
Non-Faculty	182	234	192	225	73	41	947
Total staff	**282**	**463**	**354**	**416**	**122**	**43**	**1,680**
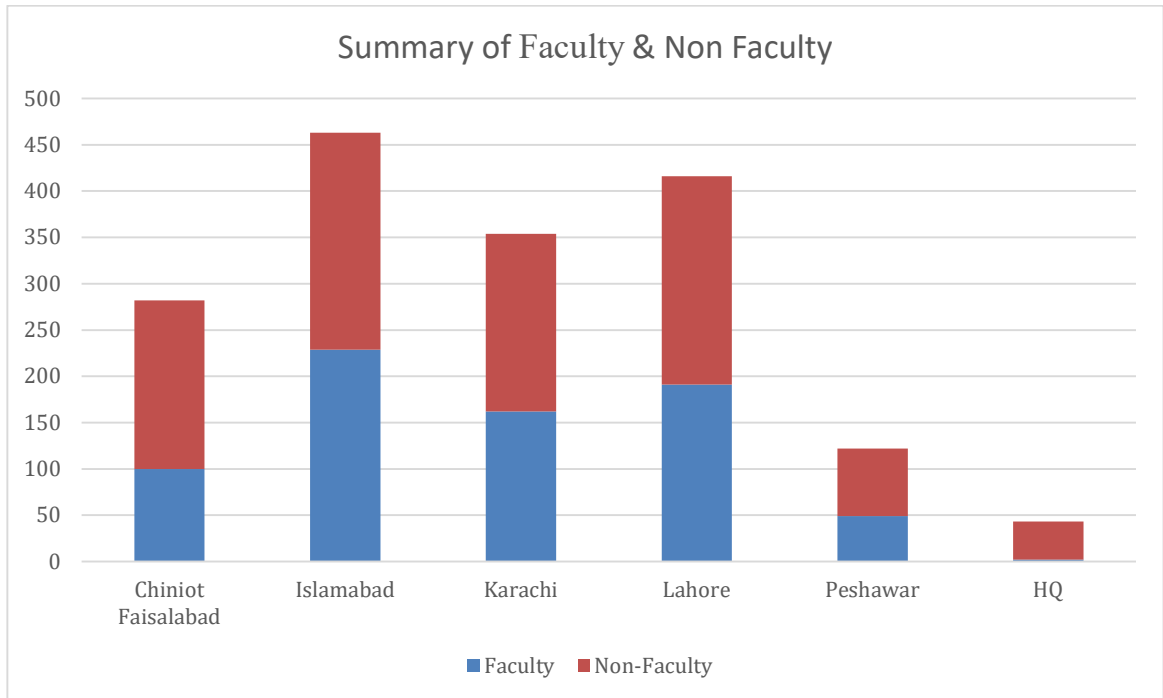
Chiniot-Faisalabad Campus

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Lab Engineer	Total
Artificial Intelligence and Data Science			2	3			5
Computer Science	1	2	9	21	3		36
Electrical Engineering	2	1	4	2		5	14
Management Sciences			4	3			7
Sciences & Humanities		1	5	12	3		21
Software Engineering			5	9	3		17
Total	**3**	**4**	**29**	**50**	**9**	**5**	**100**
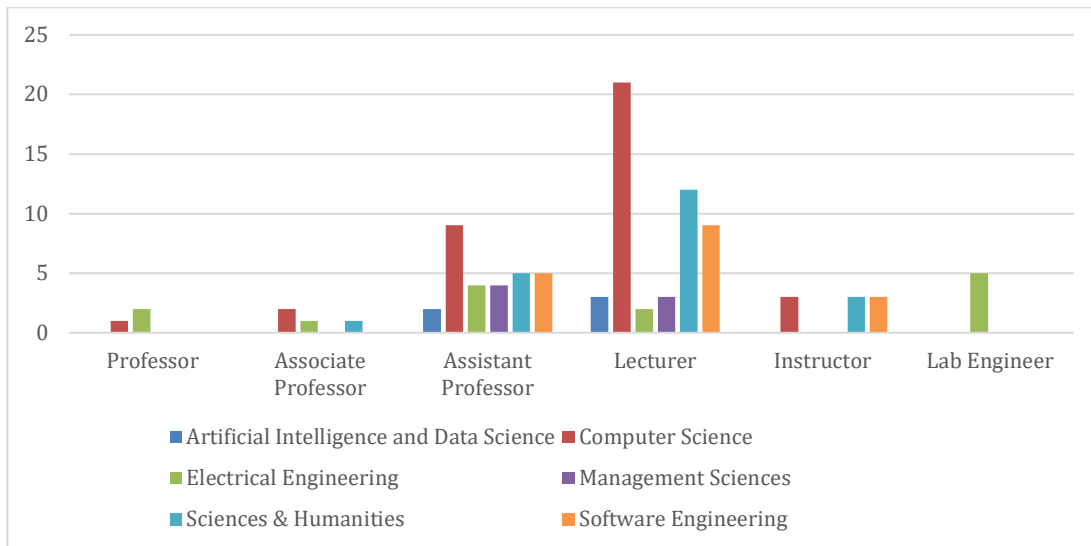
Islamabad Campus

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Lab Engineer	Total
Artificial Intelligence and Data Science	4	3	4	13	3		27
Computer Engineering	1		3	1			5
Computer Science	7	5	10	23	12		57
Cyber Security	1	2	3	7	3		16
Electrical Engineering	4	2	9	4		13	32
Management Sciences	3	3	15	7	1		29
Sciences & Humanities	3	2	10	16	10		41
Software Engineering	1	4	7	9	3		24
Total	24	21	61	80	32	13	231
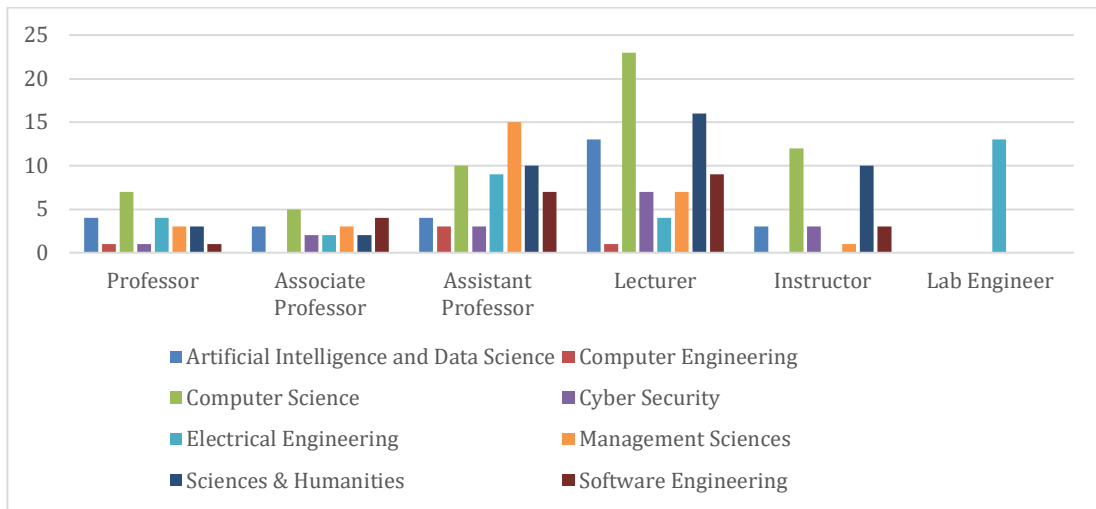
Karachi Campus

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Lab Engineer	Total
Artificial Intelligence and Data Science	1		1	8			10
Computer Science	4	4	16	33	9		66
Cyber Security	1		2	6	1		10
Electrical Engineering		2	7	6		5	20
Management Sciences		1	3	2			6
Sciences & Humanities		1	7	33			41
Software Engineering		1	1	5	2		9
Total	6	9	37	93	12	5	162
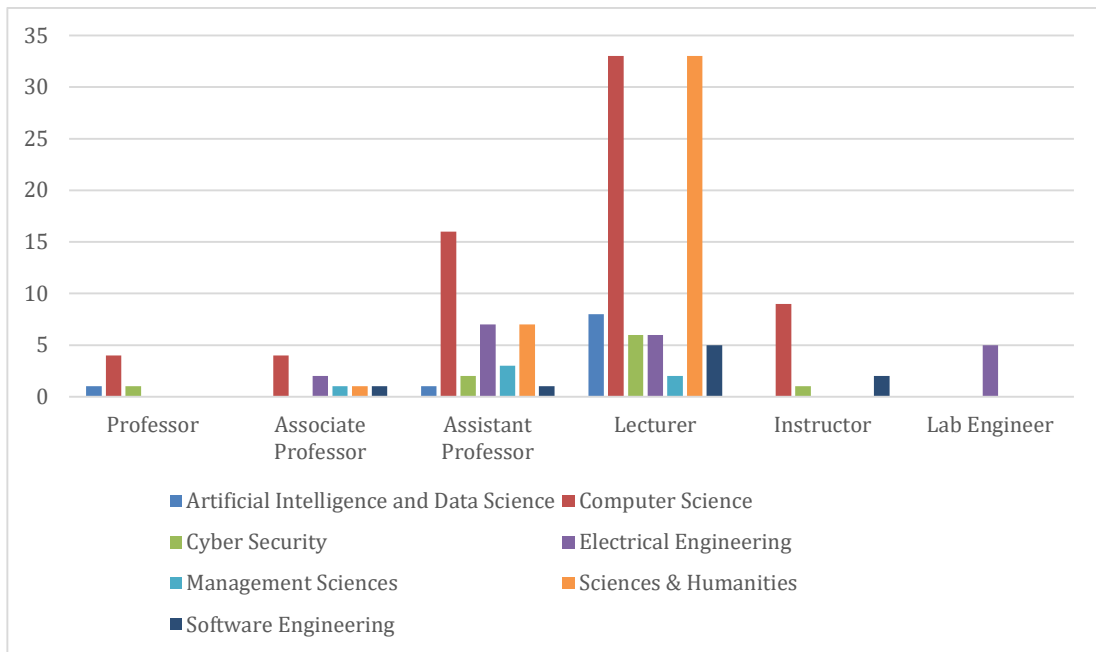
Lahore Campus

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Lab Engineer	Total
Artificial Intelligence and Data Science	1	1	3	6			11
Civil Engineering	2	4	6	9		6	27
Computer Science	5	2	18	18	4		47
Cyber Security		2	1	1			4
Electrical Engineering	3	2	10	7		2	24
Management Sciences	1	1	17	10			29
Sciences & Humanities	5	2	9	17	1		34
Software Engineering		1	3	10	1		15
Total	17	15	67	78	6	8	191
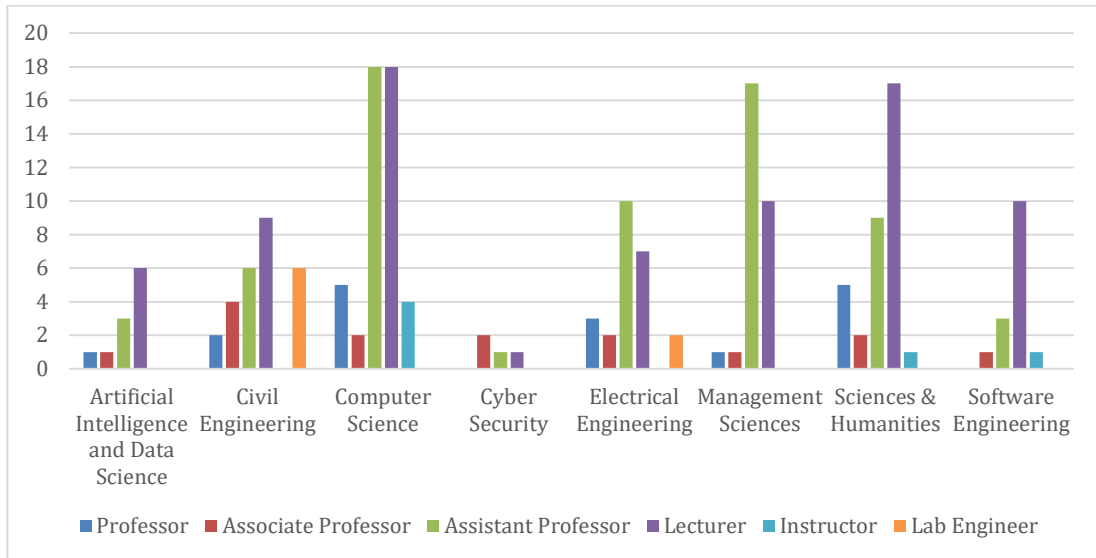
Peshawar Campus

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Lab Engineer	Total
Computer Engineering			3			2	5
Computer Science	1	3	9	9	6		28
Electrical Engineering			2	2		3	7
Sciences & Humanities			4	4	1		9
Total	1	3	18	15	7	5	49
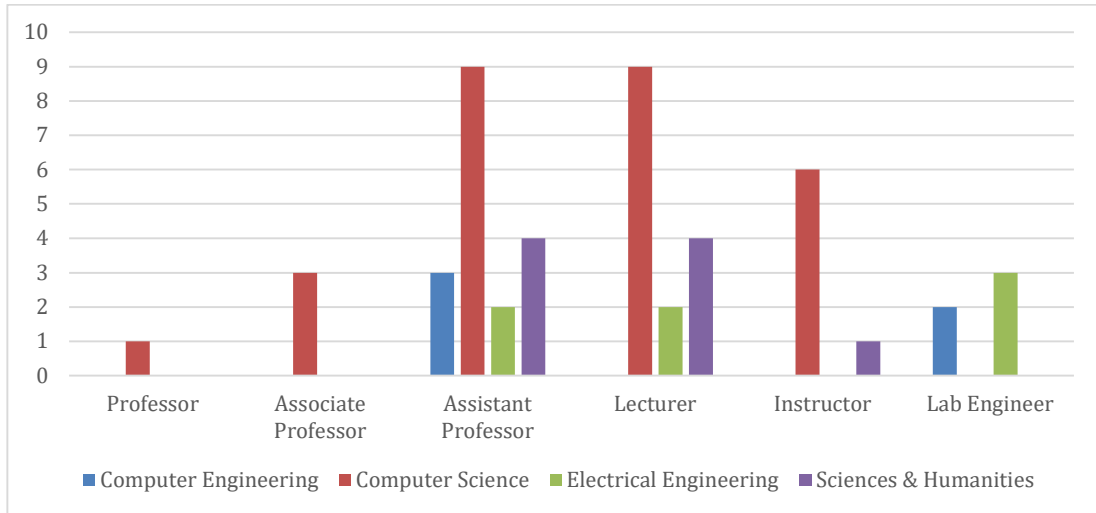
Chapter-3 Students' Profile

Applications Statistics (Discipline Wise)

		BBA	BS(AF)	BS(AI)	BS(BA)	BS(CS)	BS(CV)	BS(CYS)	BS(DS)	BS(EE)	BS(FT)	BS(Robo)	BS(SE)	Total
CFD	Applicants	2		5	1	49				7		2	24	90
	Offers			2		23				6		1	15	47
ISB	Applicants	36	17	73	6	530		43	21	46		11	217	1000
	Offers	22	11	17		39		28	17	33		24	18	209
KHI	Applicants			7	1	144		2		4		2	21	181
	Offers			1	1	35		5		3		2	18	65
LHR	Applicants	9	8		5	722	24		20	27		13	119	947
	Offers	3	5		5	54	7		6	27		15	35	157
PWR	Applicants					7				2			4	13
	Offers					1				2			3	6
	Total Applicants	47	25	85	13	1452	24	45	41	86		28	385	2231
	Total Offers	25	16	20	6	152	7	33	23	71		42	89	484

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	12	0	0	0	371	0	0	0	39	0	55	477
	Lahore	59	34	0	0	355	56	0	0	87	0	0	591
2022-23	Islamabad	71	54	53	0	326	0	30	24	59	0	0	617
	Peshawar	0	0	0	0	52	0	0	0	21	0	2	75
	Faisalabad	22	0	0	0	192	0	0	0	54	0	35	303
	G. Total	164	88	53	0	1296	56	30	24	260	0	92	2063

		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	18	33	0	43	3	0	0	0	97
	Lahore	46	0	0	0	35	34	30	4	14	0	18	181
2022-23	Islamabad	26	0	0	13	17	0	42	12	0	5	0	115
	Peshawar	0	0	0	0	0	0	0	1	0	0	0	1
	Faisalabad	11	0	0	0	20	0	0	4	0	0	0	35
	G. Total	83	0	0	31	105	34	115	24	14	5	18	429

		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	29	0	0	3	0	0	0	0	0	0	32
	Lahore	0	25	0	19	3	0	1	1	0	0	0	49
2022-23	Islamabad	12	0	19	7	2	2	0	1	0	1	0	44
	Peshawar	0	0	0	0	2	0	0	0	0	0	0	2
	Faisalabad	0	0	0	0	0	0	0	0	0	0	0	0
	G. Total	12	54	19	26	10	2	1	2	0	1	0	127

19

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

Overview

The Office of Research, Innovation, and Commercialization (ORIC) at FAST-NUCES played a pivotal role in fostering a culture of research and innovation during the 2022-2023 academic year. ORIC provided comprehensive support to researchers, from project conception to commercialization.

To encourage and recognize research excellence, FAST-NUCES implemented various policies and initiatives. ORIC actively promoted awareness of emerging research trends, offered guidance to faculty members, and provided support during the proposal development and project execution stages. Under the mentorship of the Rector, the ORIC team successfully facilitated an increase in research collaborations with industry and other universities.

The diverse range of research and development activities undertaken at FAST-NUCES during the 2022-2023 academic year aimed to inspire faculty and students to actively participate in the university's research endeavours. By engaging in research initiatives, students and faculty contributed to the advancement of knowledge and contributed to the university's overall success.

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. Asif Naeem	Director ORIC
Engr. M. Aatif Saif Khan	Manager Research Management
Mr. Rana Ayaz	Manager Innovation & Commercialization
Ms. Sayeda Sadia Batool	Grants Management Officer
Ms. Maryam Mehtab	Research Officer
Ms. Aysha Shafiq	Assistant Manager (Career Services, Chiniot Faisalabad Campus)
Ms. Iram Arshad	Assistant Manager (Career Services, Islamabad Campus)
Ms. Aysha Siddiqui	Assistant Manager (Career Services, Karachi Campus)
Mr. Bashir Muhammad	Manager (Career Services, Lahore Campus)
Mr. Riaz Nawab	Officer (Career Services, Peshawar Campus)

Organogram
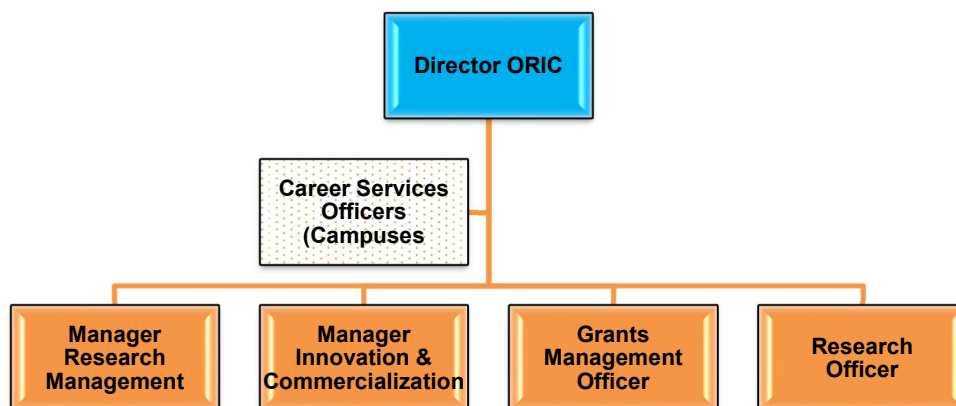
Accomplishments

Noteworthy achievements of our department include:

- The ORIC recently received a commendable "Y" ranking in its inaugural participation in the HEC's 2022-2023 ORIC Performance Ranking. It speaks volumes about the efforts put-up by the ORIC team under the guidance of the worthy Rector.
- To achieve the HEC's accreditation and ranking, 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 contributed 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 36 research proposals submissions for external research funding in the period 2022 - 2023. It was despite the drought of funding opportunities due to HEC's closure of new grants in the reported period.
- Eight major competitive research grants over were secured in the period 2022 - 2023. It included winning of Grand Challenge Fund, CPEC under HEC and projects under HEC's NRPU.
- To incentivize and acknowledge outstanding research publications, faculty received research rewards exceeding Rs. 20 million in the fiscal year 2022-2023. This program has demonstrably led to an increase in the number of high-quality faculty impact factor publications during the reported period.
- The portfolio of ORIC extramural funding expands to have a lab affiliated with each of the four 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. These projects have developed prototypes that are being pitched to the investors for product licensing and commercialization.
- The NUCES encourages international collaborative research. The faculty researchers are executing European Union's ERASMUS projects.
- A host of research projects with defence and commercial verticals are also being executed.
- 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) to increase creativity, innovation, and hands on engineering and development skills. The University has been participating in this programme and won over 15 projects during 2022-2023.
- In 2022-23, under the ORIC umbrella, NUCES Successfully organized international conferences and workshops viz: ICET23, ICIT22, INMIC22, APIC22, ICETST22, IEEE WFAIR22, and ACCE22.

- 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.
- 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, MMBL, IBA University, Planet Beyond, and NIBF, among others.
- In an effort to enhance the research capabilities of faculty members, the Office of Research, Innovation, and Commercialization (ORIC) has introduced intramural funding through the Faculty Research Support Grant (FRSG) program. This year, 24 projects (worth Rs million16.891) were sponsored under the FRSG initiative.
- Our campuses have hosted over 472 capacity-building activities for faculty, staff, and students. These initiatives have provided valuable opportunities for professional development and networking, further enhancing the expertise of them.

| Campus Name	Financial Year 2022-2023
CFD	36
ISB	258
KHI	63
LHR	109
PWR	6
Total	472

- This year 40 Memorandums of Understanding (MoUs) were signed 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.
- This year ORIC has developed the NUCES University Research Portfolio to showcase the university research spectrum and achievements at both national and international level. It strengthens our capacity to engage with various funding bodies and facilitates collaborations, fostering opportunities to secure consultancy projects and further propel our research initiatives. The University Research Portfolio is uploaded on the ORIC website and can be accessed from URL https://www.nu.edu.pk/Oric/UniversityResearchProfile.
- As part of our commitment to foster an entrepreneurial culture within the university, faculty members are actively encouraged to establish research labs. To date, we have successfully commercialized 42 research labs across various campuses of NUCES. Further details regarding the projects and achievements of these research labs can be accessed through our official ORIC website at https://www.nu.edu.pk/Oric/OricResearchLabs. This platform serves as a gateway for national and international organizations to connect with relevant research labs for collaborative research and development initiatives. Such collaborations ultimately prove beneficial for the university and its stakeholders

- A new Chip design centre has been established at Islamabad campus with the collaboration of GS Microelectronics US Inc. The centre, named GF-Metrc, focuses primarily on Integrated Circuit (IC) design, research, training, and fostering innovation and commercialization, leveraging the partnership with GSME.
- ORIC is supporting its faculty members and researchers in establishing their technical start-ups, including providing support throughout the trademark and patent filing processes. Notably, recently a new Start up (iParahi) has achieved success in trademark registration. Additionally, the founder is actively engaged in the process of filing a patent application for his forthcoming product.
- ORIC consistently disseminates information regarding exchange programs and international internship opportunities for students. Both students and faculty members have been actively utilizing these opportunities to enhance their academic and professional pursuits.
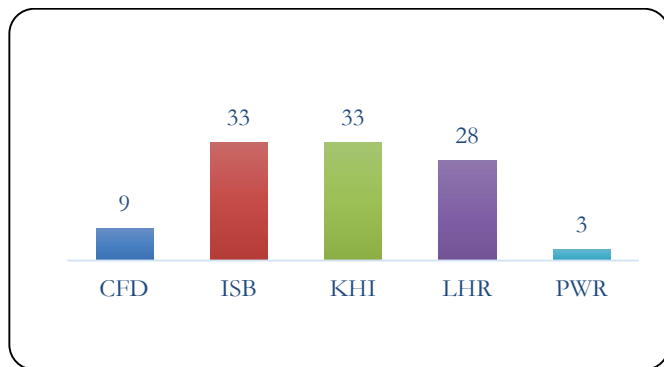
Chapter-5 Research & Development

Campus Wise information of Journal Articles and Conference Papers

	Journal Articles
Chiniot-Faisalabad	90
Islamabad	136
Karachi	54
Lahore	155
Peshawar	61
G. Total	**496**
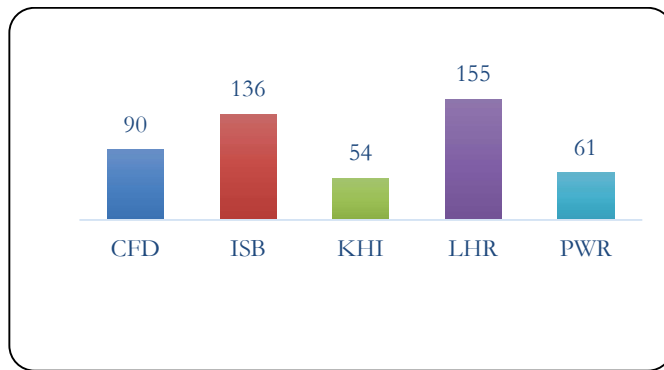
	Conference Papers
Chiniot-Faisalabad	9
Islamabad	33
Karachi	33
Lahore	28
Peshawar	3
G. Total	**106**

Department Wise information of Journal Articles and Conference Papers

	Journal Articles
Civil Engineering	27
Computer Science	195
Electrical Engineering	73
Management Sciences	58
Sciences & Humanities	143
G. Total	**496**
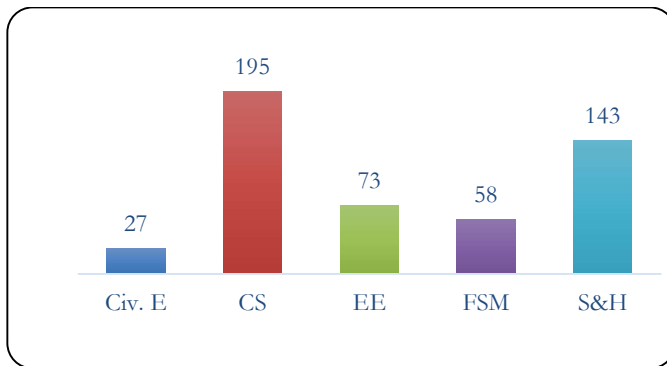
	Conference Papers
Civil Engineering	4
Computer Science	73
Electrical Engineering	11
Sciences & Humanities	18
G. Total	
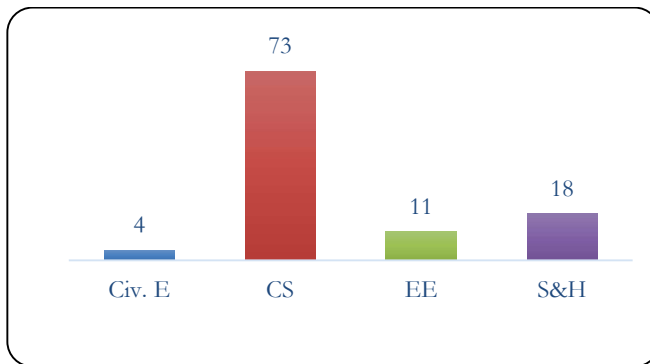
Campus wise impact factor publications

	Impact Factor Publications
Chiniot-Faisalabad	79
Islamabad	124
Karachi	36
Lahore	119
Peshawar	57
G. Total	**415**
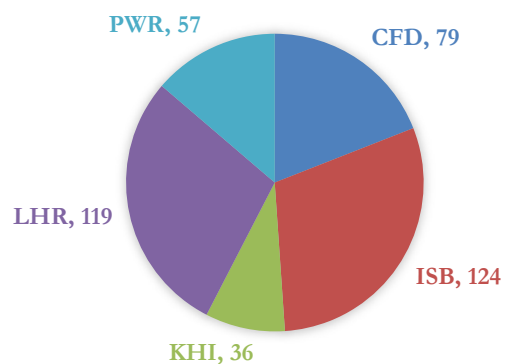
Department wise impact factor publications

	Impact Factor Publications
Civil Engineering	22
Computer Science	189
Electrical Engineering	66
Management Sciences	43
Sciences & Humanities	104
G. Total	**424**
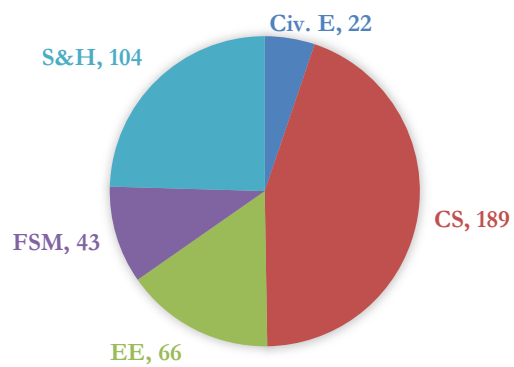
Chapter-6 Quality Assurance

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 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
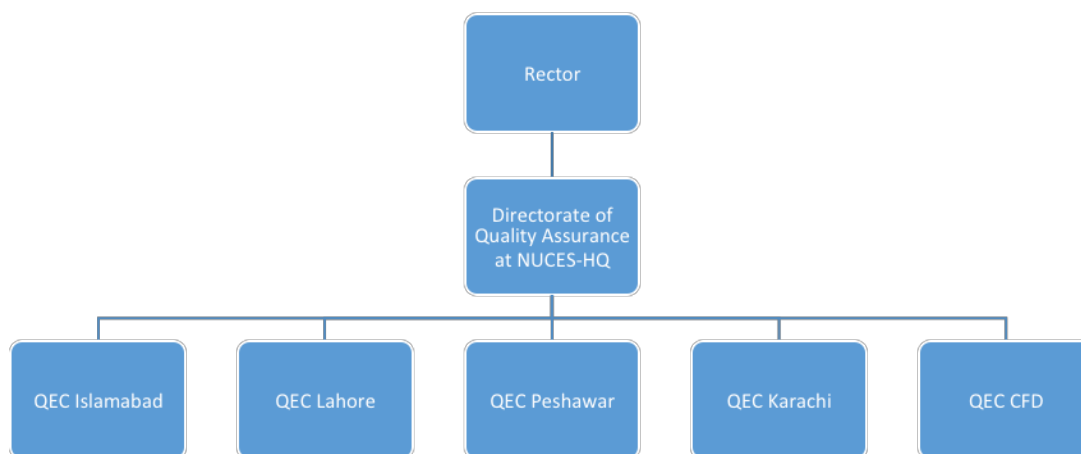
Training Workshop on "Problem Solving Gamification"

Masood Textile Mills Limited organized a training session on "Problem Solving Gamification" on December 14, 2022. FAST-Executive Development Center (EDC) of FAST-National University of Computer and Emerging Sciences Chiniot-Faisalabad Campus was the venue partner.

Mr. Talal Saiyer an accomplished, dynamic and client driven training professional delivered the interactive training session. He engaged the audience with various group activities on communication, problem-solving games, and coordination between teams.

About 27 officials from MTM participated in the workshop and as Staff development of FAST-NUCES CFD Campus, five (05) nominated officials also attended the workshop. Mr. Talal distributed participation certificates.

Awareness Session on Importance of Student's Feedback - Freshmen

Quality Enhancement Cell (QEC) has arranged an awareness on "Importance of Student's Feedback" for Freshmen Batch Intake 2021. The session was held on September 14, 2022, in NUCES CFD Auditorium. Mr. Muhammad Sekandar Riaz Deputy Manager QEC briefed the students regarding the process of submitting Course and Teacher Feedback. He further highlighted the various aspects of student's feedback and its importance for the campus management. Students were also briefed about the process of Graduating, Alumni and Employer survey. The session ended with vote of thanks to all the participants.

SAR visit of MS (Electrical Engineering) Program

Department of Electrical Engineering and Quality Enhancement Cell (QEC) has arranged Self-Assessment (SAR) visit of MS (Electrical Engineering) Program.
Prof. Dr. Syed Aun Abbas, Department of Electrical Engineering from FAST-NUCES Lahore Campus and Dr. Asim Khan Associate Professor and Head, Department of Electrical Engineering visited the campus as Assessment Team (AT) members on June 14, 2022.

Dr. Shahzad Sarfraz Director FAST-NUCES CFD Campus and Dr. Adil Zulfiqar Assistant Professor and HoD EE welcomed the panel experts. The team evaluated the MS(EE) program under the purview and guidance of Higher Education Commission (HEC) Pakistan. The team also visited the campus infrastructure and facilities being provided to the graduated students. The team met with faculty and students and listened their queries. In the exit meeting the team provided valuable suggestions for the continual quality improvement of the program. Prof. Dr. Shahzad Sarfraz Director FAST presented souvenirs as token of love to the Assessment Team (AT) members.

SAR visit of MS (CS) and PhD (CS) Programs

Department of Computer Science and Quality Enhancement Cell (QEC) arranged Self-Assessment (SAR) visit for the MS (Computer Science) and PhD (Computer Science) Programs. Dr. Mian Muhammad Awais Professor Syed Babar Ali School of Science and Engineering, Lahore University of Management Sciences (LUMS) and Dr. Majid Hussain, Professor and Head, Department of Computational Sciences, The University of Faisalabad,

Faisalabad visited the campus as Assessment Team (AT) members on Thursday, June 16, 2022. Dr. Shahzad Sarfraz Director FAST-NUCES CFD Campus and Dr. Affan Ruaf Assistant Professor and HoD CS welcomed the panel experts. Mr. Adeel Ashraf Cheema (Member Program Team) presented a brief presentation about the FSAT-NUCES and said programs.

The team evaluated the MS(CS) and PhD(CS) programs under the purview and guidance of Higher Education Commission (HEC) Pakistan. The team also visited the campus infrastructure and facilities being provided to the graduated students. The team also had meetings with PhD faculty of School of Computing and students of the MS(CS) and PhD(CS) programs.

The Assessment Team (AT) appreciated the efforts of the department and QEC for imparting quality education, however the team provided few suggestions for the betterment of the programs. Dr. Shahzad Sarfraz Director FAST presented souvenirs as token of love to the Assessment Team (AT) members.

Post Graduate Program Review (PGPR)

Quality Enhancement Cell (QEC) has organized the Post Graduate Program Review (PGPR) visit of MS (Computer Science), MS (Electrical Engineering), MBA and PhD (Computer Science) programs on Thursday, June 30, 2022. Dr. Sajid Bashir, Professor NAMAL Business School from NAMAL University Mianwali and Mr. Faisal Ijaz, Controller of Examinations form Information Technology University (ITU) Lahore visited the campus as external experts.

Dr. Shahzad Sarfraz Director of FAST-National University of Computer and Emerging Sciences Chiniot-Faisalabad Campus welcomed the experts. The experts had a meeting with Head of all the Academic Departments offering graduate programs, GSC Coordinator and MS Thesis Coordinators. Mr. Sekandar Riaz, Assistant Manager QEC briefed the experts regarding the stat-of-the-art infrastructure and research facilities being provided at the campus.

The experts visited the campus hostel, library, engineering and computing labs, cafeteria, fitness center, medical center, sports and playgrounds, Executive Development Center, Central and Departmental Academic offices, and Student facilitation Center.

The experts had a meeting with PhD faculty members of the campus and has met with the graduate students. In the exit meeting with Campus Director and HODs, the experts provided their valuable suggestions for the continual improvement of the graduate programs. Dr. Shahzad Sarfraz Director FAST-NUCES CFD Campus presented souvenirs as token of love for their precious time.

Post Graduate Program Review (PGPR) Visit to CUST, Islamabad

Mr. Umair Manzoor, Deputy Manager QEC, NUCES, Islamabad campus was invited as an external viewer by Capital University of Science and Technology (CUST) for their Post Graduate Program Review. The activity was conducted on January 3 to 5, 2023. The other reviewers included Ms. Asmat Parveen Director QEC, Foundation University Islamabad and Dr. Nousheen Tariq Bhutta, Assistant Professor, Faculty of Management Sciences.

The review panel during their visit to CUST met with Vice Chancellor, Deans/HODs, Faculty and students. They also visited all infrastructure facilities including classrooms, Library, Laboratories, Data center, sports facilities and University dispensary. PGPR committee prepared their report, including findings and recommendations. The committee showed its overall satisfaction and suggested few recommendations for further improvement.

Meeting of SSAPI Project in Maldives

International Training and Project Meeting of the project "Strategic Support for Accreditation of Programs and Internationalization at South Asian Higher Education Institutes (SSAPI)" was held at the Maldives National University and Villa College, Maldives from 5th to 9th February 2023. Dr. Muhammad Arshad Islam, Director QEC and Mr. Umair Manzoor, Deputy Manager QEC participated in the meeting.

The Project aims Standardization leading to accreditation of academic programs and uplifting the standard of higher education system (academic program, procedures and policies, facilities, documentation, etc.), in line with international standards, policies and best practices. This project is supported by the European Union under ERASMUS + Capacity Building in Higher Education.

During the five-day meeting, progress of the project was reviewed, facilities of the host partner institutes were visited and various knowledge sharing sessions were conducted to share the experiences.

Self-Assessment Process

The current modern era demands from higher education institutions to demonstrate the effectiveness of their academic programs in providing high quality education that positively impacts students. In this regard, accrediting bodies and others concerned with quality assurance have given special attention to external as well as internal quality assurance. Most of the programs being offered at undergraduate level in Pakistan are being monitored by various accreditation bodies. These bodies do not accredit graduate level programs. This has led Higher Education Commission (HEC) to develop methods for assessing the quality of graduate level academic programs. HEC has given a very decent mechanism for the assessment of graduate programs, and it is mandatory for all the higher education institutions to follow it. This involves preparing Self-Assessment Report (SAR) of all graduate programs, that are used by the Assessment Team to assess the quality of program, and highlight the areas where improvement is required.

SARs for all the graduate programs at NUCES, Islamabad campus have been developed, and most of them have been assessed. In Spring 2023, SARs for Electrical Engineering programs (Ph.D. and MS) and MS Artificial Intelligence have been prepared and are ready for the assessment visit, which is planned soon after Ramadan.

Faculty Satisfaction Survey

FAST-NUCES offers a very conducive academic environment to its faculty and students. The system believes in disagreements and therefore, every individual is free to give opinion/feedback. In this connection, Quality Enhancement Cell at Islamabad campus

conducted Faculty Satisfaction Survey. Faculty members from all the departments participated and gave their valuable feedback.

At FAST-NUCES, the concerns and the feedback given by the faculty members are given due consideration and the remedial actions are immediately taken if they are necessary. Accommodating the feedback of the faculty enhances the satisfaction level of the faculty which is evident from their continued association with the University. The Faculty Satisfaction Survey conducted for 2-22-23 shows overall satisfaction of faculty with the teaching-learning environment being provided at the campus.

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 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). 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 regulation.
- 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 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 self-finance basis. The university also provides a limited number of buses to pick and drop students from selected points on 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 subsidized self-finance basis.

Peshawar Campus

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