



CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY

Sustainability Report

2019-2020



Directorate of Sustainability and Environment



cust.edu.pk



oric@cust.edu.pk



Expressway, Kahuta Road, Islamabad

Introduction

Capital University of Science and Technology draws a depth of understanding of impactful solutions to address climate change and to create a sustainable future ahead. Leaders of every field are collaborating to make the environment healthier and sustainable- starting from business to engineering and natural sciences.

Capital University of Science and Technology has been doing numerous attempts to make the campus greener and preserve resources in the best possible manner and show sustainability in action. We are one of the leading universities that have been doing efforts in researching, teaching, and practical environmental sustainability. By doing this, we are creating a healthier environment now and ensuring the availability of resources for our future generation. Capital University of Science and Technology is thoroughly engaged in research and innovative teaching on sustainability and the environment. The environment-related content includes most of the subjects.

Going green and sustainability has become the core value in campus action. The University is consistently making efficient investments in and taking significant steps for sustainability at the operational and programmatic level. The Directorate of Sustainability and Environment (DSE) is forming sustainable strategies and leads those strategies and initiatives on campus physical infrastructure and programs in energy and climate, water, transportation, and building operations. DSE empowers ambitious collaborations and partnerships that contribute to a deeper understanding of sustainability.

The DSE communicates with all the university departments and works collaboratively with them to implement sustainability-specific initiatives. The DSE focused key areas are communication, training, and education; assessments, evaluation, and reporting; events, campaigns, and talk; organizational effectiveness and infrastructural planning support.

73 YEARS OF SUSTAINABILITY

Developing countries such as Pakistan face many environmental issues. The major issues being; increased population, unsustainable land use, air pollution, water pollution, noise pollution, climate change, natural resource depletion, High and unsustainable energy consumption, loss of biodiversity, degradation of freshwater, deforestation, and unsustainable use of forests. The first phase from 1947 to 1957 was a period of environmental neglect. The second phase, which lasted from 1958 to the holding of the United Nations Conference on Human Environment in 1972 in Stockholm, was a period of adhocism, when environmental problems were tackled in a piecemeal fashion.

In the 1980s Pakistan paid greater attention to sustainability and growing environmental challenges. The Significant milestones are listed below;

- ✓ Pakistan Environmental Protection Ordinance (PEPO, 1983), afterward revised as the Pakistan Environmental Protection Act (PEPA, 1997). It was enacted on 6th December 1997, repealing the Pakistan Environmental Protection Ordinance, 1983.
- ✓ Establishment of Environmental Protection Agencies (EPA's) on November 9, 1997.
- ✓ Establishment of Environmental Laboratories to cater to environmental monitoring and testing requirements in Districts of Faisalabad Sargodha, Mianwali and Khushab, Gujranwala, Sialkot, Murree, Rahim Yar Khan, Bahawalpur, Bahawalnagar, Rawalpindi, Attock, and other nearby areas.
- ✓ Establishment of environmental courts and National Environment Quality Standards.
- ✓ Pakistan has sought to implement fourteen multilateral environmental agreements (MEA's), and actively participates in global environment-related meetings held under the MEA's. Pakistan has been actively participating in the annual meetings of the Commission on Sustainable Development (CSD) and the Governing Council of UNEP.
- ✓ The 1973 Constitution allowed reserved seats for women in both houses of parliament for a period of 20 years, thus ensuring that women would be represented in parliament regardless of whether or not they are elected on general seats.

In the 1990s Pakistan has emphasized four additional priority objectives to some degree in promoting sustained and equitable economic development. Some milestones are listed below

- ✓ Pakistan Environmental Protection Ordinance (PEPO) was revised as the Pakistan Environmental Protection Act (PEPA).
- ✓ The Rural Support Programs that were initiated in Pakistan in the 1990s
- ✓ The Hydrocarbon Development Institute of Pakistan pilot-tested a CNG outlet in the 1990s and demonstrated that the CNG storage tank and kit were reliable. Subsequently, the Government facilitated private sector investment in CNG outlets and conversion services, and vehicle owners responded in a rapid and widespread conversion to CNG. The introduction of cleaner gasoline and diesel is another example of success.
- ✓ The Rawalpindi Urban Water Supply and Sanitation Project (1998–2004) is an example of an intervention that concurred with the Government's development strategy as well as with objectives of addressing basic human needs, reducing poverty, and improving the environment. More than 70% of randomly interviewed beneficiaries reported satisfaction with the quality of their water supply and said that their neighborhood's environment and levels of hygiene had improved with better drainage and sanitation
- ✓ Net external transfers were the highest during the 1990-99 period, compared to the 1980s

In the 2000's the following are some of the significant milestones achieved listed below.

- ✓ In the four years under the Musharraf Government (2000-2004), the country, in fact, generated a current account surplus, thus exporting capital to the U.S. and other developed countries rather than obtaining foreign flows. Besides repaying pre-paying a large amount of external debt and liabilities, the country has accumulated \$12 billion-plus in foreign exchange reserves compared to an average of \$1 billion in the 1990s.
- ✓ Foreign exchange reserves had risen to \$3.2 billion by June 2001 from a sum of \$1.7 billion. Inflation was contained to approximately 4.4 percent. Exports had risen from \$7.8 billion in FY99 to \$9.2 billion. Tax revenues showed an impressive increase of almost Rs100 billion - from Rs.308 billion to Rs.392 billion by June 2001 – a 14 percent annual growth. The fiscal deficit was brought down to 5.3 percent of GDP from 6.1 percent. The current account had turned surplus to 0.6 percent of GDP from a deficit of 3.8 percent. The exchange rate had become stable since June 2001.

- ✓ the National Education Policy
- ✓ Since 2000, all provinces/ areas have seen steady increases in Early childhood education participation steady increases in primary enrolment since 2005–2006
- ✓ Literacy rate reaches 63% in 2001/2002
- ✓ Criminal Law (Amendment) Act of 2004
- ✓ Protection of Women Bill 2006
- ✓ In 2002, in General Musharraf's era, the quota for reserved seats for women was increased to 33% at all levels of governance.

In the 2010s has Pakistan kicked it into full gear and many projects were completed, many milestones met and many sustainable projects initiated;

- ✓ With the 18th Amendment in 2010, Article 25-A enshrined the right to education for all children aged 5–16 years. Which stated “The State shall provide free and compulsory education to all children of the age of five to sixteen years in such manner as may be determined by law”
- ✓ CPEC was signed which provided Pakistan with great economic growth opportunities and allowed there to be more job opportunities. This would increase the standard of living of many people
- ✓ The construction for the two main dams; Mohmand and Diamer-Bhasha
- ✓ Pakistan integrated the SDGs into its national development agenda in February 2016
- ✓ A National SDGs Framework was launched in 2018 envisaging a national vision, plan, and strategy to optimize, prioritize, and localize the full potential of SDGs in Pakistan.
- ✓ Over the last ten years, poverty headcount has fallen by 26 percent and multi-dimensional poverty decreased by 16 percentage points.
- ✓ Reductions in stunting and malnutrition have taken place - over the period 2013-2018 by 6 and 9 percentage points, respectively
- ✓ The prevalence of skilled birth attendance has improved by 17 percentage points while the neonatal mortality rate has fallen by 10 percentage points during the same period.
- ✓ Pakistan's Billion Tree plantation over 350,000 hectares was the first Bonn Challenge pledge to hit and surpass its commitment, through national resources. This project has

now been up-scaled to 10 Billion Tree Tsunami – a five-year country-wide tree plantation drive to restore depleted forests and mitigate climate change

- ✓ Poverty in Pakistan fell from 64.3% in 2002 to 29.5% in 2014
- ✓ Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population) 6.1% in 2013 to 3.9% in 2015
- ✓ Pakistan hunger statistics for 2017 was 20.30%, a 0.3% decline from 2016.
- ✓ Launch of the National Poverty Graduation Programme.
- ✓ Pakistan has seen gradual increases in education budgets; from 2012–2013 to 2016–2017, allocations have risen by 51 percent
- ✓ Pakistan has seen gradual increases in education budgets; from 2012–2013 to 2016–2017, allocations have risen by 51 percent
- ✓ Tehmina Janjua became the 29th Foreign Secretary of Pakistan, the first women to hold the post
- ✓ Nigar Johar became the third female major general in Pakistan's history
- ✓ Domestic Violence (Prevention and Protection) Bill. The Act articulates an inclusive definition of domestic violence that includes “economic abuse” for the first time and established a prison sentence of up to two years for perpetrators.

POLICIES

The Green Policy of CUST is to balance the eco-system of the campus and conserve resources efficiently, by utilizing skills and pieces of knowledge for developing several unique Eco-friendly solutions. Our Green Policy also includes monitoring, direct, and inspect human activities, taking different actions to prevent harmful effects on the biophysical environment and natural resources ensuring no harmful effects on humans.

At present, there are five major areas for monitoring, namely, Energy Management, Solid Waste Management, Wastewater Management, Environmental Air Quality Assessment, and Conservation of natural flora and fauna of the area.

Paper Usage Policy

Worldwide, deforestation is estimated to be responsible for about 12% of greenhouse gas emissions. Forests house carbon in wood, leaves, and soil. When loggers and developers cut down forests, CO₂ escapes into the atmosphere, therefore they are crucial to tackling the ever-increasing concern of Climate Change. As Paper is primarily made from the wood fiber of trees, it is advised that efforts be made to reduce paper waste. Paper waste, like other wastes, faces the added hazard of toxic inks, bleaches, dyes, and polymers, etc. that could be potentially hazardous when cremated, or merged with groundwater via traditional burial methods such as modern landfills. This ensures reduction of waste, efficient use of resources, and enables the business to be more organized, effective, and ultimately cut cost.

C.U.S.T. is working in the direction of a paperless environment and the following guidelines are expected from faculty, staff, and students:

1. Using Paper Efficiently

Using paper efficiently is a key first step in reducing the environmental impacts associated with paper use. To use paper efficiently, CUST will:

- Increase paper efficiency by reevaluating the paper usage and set new targets to reduce paper consumption. The method will be developed to assess the results.
- Use the C.U.S.T. portal or data server for providing assignments, projects, articles, books, etc. to students.
- Purchasing copiers, printers, and fax machines can be set to default to double-sided printing.

- Reusing products such as file folders, storage boxes, and paper printed on one side.
- Limit paper printing, by only printing the specifically required portion of the document.
- Reduce the pages used in printing by printing on both sides of the page.
- Minimize the paper waste by reviewing, revising, and proofreading documents before printing.
- Preference be given to the use of emails for correspondence rather than using paper.
- Reducing the basis weight and trim sizes of printed pieces.
- Rethinking design processes to minimize printing and copying waste.
- Use online means of communication such as Messenger, WhatsApp, Gmail, and other such applications to decrease printing.
- Encourage electronic backups rather than paper files.
- Minimize the use of disposable paper products.

2. Maximizing Recycled Content

Purchasing recycled-content paper and paper products have far-reaching environmental benefits and will encourage suppliers to increase their capabilities in providing these products. To maximize the recycled content in paper and paper products, CUST will act on the basis of the following policies:

- Purchase and source paper and paper products that contain the highest post-consumer recycled content feasible for each specific need.
- Set a timeline for increasing the postconsumer content in purchased paper products as quickly as possible to higher percentages.
- Give preference to paper and paper products whose postconsumer recycled content is verified by an independent, third-party organization, such as
- Give preference to paper and paper products that also contain other recovered materials (e.g. pre-consumer recycled content, agricultural residues, etc.) after maximizing post-consumer recycled content.
- Avoid coatings and bright-colored papers whenever possible.
- Give preference to suppliers and manufacturers that use renewable energy to supply electricity for their facilities, either on-site or through the purchase of renewable energy certificates (RECs).

Water Usage Policy

CUST will educate every campus user on how and why to conserve, appropriately use, and protect the quality and quantity of water sources. CU will act on water conservation opportunities to reach our minimum annual goal of a five percent water reduction each year for the next five years and continue to be a national campus leader, setting and exceeding the standard in water conservation and quality efforts.

- CUST will educate every campus user on how and why to conserve, appropriately use, and protect the quality and quantity of water sources. CUST will act on water conservation opportunities to reach our minimum annual goal of a five percent water reduction each year for the next five years and continue to be a national campus leader, setting and exceeding the standard in water conservation and quality efforts.
- Use the wide range of campus and off-campus expertise in various fields including engineering, psychology, bioinformatics, pharmacy, computer science, mathematics, and management to implement a program for every department to participate in and strategize for the best water practices.
- Provide research for other campuses. CUST is setting the standard for campus water conservation nation-wide and it will be important to share lessons learned here as well as learning from others.
- Install water-saver plumbing and fixtures.
- Use Altered Nozzles(Water efficient devices) which decreases water consumption by 98%
- Install flow control devices such as low-flow showerheads and flush valves.
- Never let the water keep running when it is not being used
- Use Processor to treat sewage water
- Use rainwater
- Discourage throwing garbage into rivers or other water bodies
- Encourage the practice of using filtered water as an alternative to bottled water
- Discourage the use of drinking water for watering plants and laundry
- Spread awareness about Water Conservation.
- Encourage the use of refillable glasses or cups for drinking water

Recycling and waste reduction policies

- Recycling of paper, cardboard, and beverage cans (aluminum and bi-metal).
- Increased use of electronic mail instead of memos, reuse/resale of surplus furniture, etc.
- Purchasing products made from recycled materials. All departments should purchase recycled products wherever economically feasible.
- CUST will make a committee for 'waste and recycling audit' to help identify simple areas for improvement.
- Categorizing items under recyclable and non-recyclable, along with which of the items can be recycled.
- Placing recycling bins for identified items i.e. glass, plastic or cardboard, etc.
- Spreading Awareness about Waste Reduction and different types of recycling through the use of social media, events, DSE-CUST website, awareness campaigns, etc.
- Monitoring and inspecting the recycling and evaluating the results.

Energy Policy

One of the green initiatives would be to start using sustainable energy to fulfill energy requirements. Alternative energy sources such as Solar panels, water power, and wind power projects can be an investment that would pay off in time. Following are the guidelines for our energy policy;

- Upgrade to Efficiency: Replace inefficient appliances and upgrade inefficient buildings.
- Build Better: All new buildings should be high performance and energy-efficient.
- Move to Clean Power: Buy or generate electricity from renewable resources.
- Expand Transportation Alternatives: Make it easy to get around on less fuel.
- Implement Green Purchasing: Buy products that use less energy, last longer, and are better for the environment.
- Institutionalize Conservation: Create a culture of conservation on campus
- Use of LED bulbs rather than standard CFL bulbs
- Turn lights/computers/appliances off when class is dismissed

- Reducing carbon footprint by providing extensive transportation services for faculty and students.
- promote the use of carpooling or using university-provided transportation services

Following Sustainable development goals



No poverty is the first sustainable development goal defined by the United Nations. It is the right of an individual to get the basic needs of society, like food, shelter, and clothing. In order to achieve this goal, the Capital University of Science and Technology has contributed tremendously. There is a separate department known as “Volunteer in Service” who is striving hard to contribute to society to eradicate poverty and bring equality.

VIS Directorate organizing such activities and engaging the students in community service to give them flipside of the real-world as this has been reflecting in the vision of CUST Leadership especially visionary Chancellor Mian Amir Mehmood and Vice-Chancellor Dr. Muhammad Mansoor Ahmed.

All the activities of “Mall of Humanity” were organized by the team of students and coordinated by the Team of VIS headed by Dr. Iqbal Shoukat. This activity carries 50% weightage towards 65 hours of volunteer service, which is a degree requirement for all undergrad students of CUST.

Sr. No.	Activity	Date	Description
01	Mall of Humanity by VIS-CUST & Helping Hand for Relief and Development	Jan 7, 2018	Students of VIS-CUST with the collaboration of Helping Hand for Relief and Development managed "Mall of Humanity" at Chaklala Scheme 3, Garibabad, Rawalpindi, where In-Kind Gifts (Cloths, Jackets, sweaters, shoes, blankets, etc) distributed among three hundred families (more than 2000 persons).
02	Mall of humanity by VIS-CUST & Helping Hand for Relief and Development.	Feb 8, 2018	Students of VIS-CUST with the collaboration of Helping Hand for Relief and Development managed "Mall of Humanity" at CUST campus, Islamabad where In-Kind Gifts (Cloths, Jackets, sweaters, shoes, blankets, etc) distributed among subordinate staff of Capital University of Science and Technology(one hundred and eighty families).
03	Mall of Humanity by VIS-CUST & Helping Hand for Relief and Development	April 30, 2018	Students of CUST in collaboration with the local community and HHRD-Helping Hand for Relief

			and Development organized "Mall of Humanity" at Karal and Sharifabad area of Islamabad where In-Kind Gifts (Cloths, Jackets, sweaters, shoes, blankets, etc) were distributed among more than 500 hundred families.
04	Mall of Humanity by VIS-CUST & Helping Hand for Relief and Development	May 13, 2018	In the above-sited event, 67 Students of CUST in collaboration with the local community and HHRD-Helping Hand for Relief and Development organized "Mall of Humanity" at Rahimabad, Government Elementary School, Dhok Charighdin, Rawalpindi where In-Kind Gifts (Cloths, Jackets, sweaters, shoes, blankets, toys and bags, etc) were distributed among more than 500 hundred families.
05	Mall of Humanity by VIS-CUST & Helping Hand for Relief and Development	Sep 13, 2018	In the above-sited event, 51 Students of CUST in collaboration with the local community and HHRD-Helping Hand for Relief and Development organized "Mall of Humanity" at Rawat, Rawalpindi where In-Kind Gifts (Cloths, Jackets, sweaters, shoes, blankets, toys and bags, etc) were distributed among more than 550 families. Students were facilitated during the event as per university authority. The event was well appreciated by the team of HHRD and by the local community as the beneficiaries paid special thanks to the provider of the in-kind gift (HHRD), facilitator locale community under the leadership of Chairman Union Councilor, Rawat.
06	VIS Directorate -CUST & Helping Hand for Relief and Development	Oct 14, 2018	The event on the theme of “ <i>Mall of Humanity</i> ” was organized by the volunteers in Service (VIS) CUST and Helping Hand for Relief and Development. This event was held

			on at Government Primary School, Ausia, Murree.
07	VIS Directorate -CUST & Helping Hand for Relief and Development	Dec 23, 2018	The event on the theme of “ <i>Mall of Humanity</i> ” was organized by the volunteers in Service (VIS) CUST and Helping Hand for Relief and Development. This event was held at The Arqam School, Chakwal City.
08	Mall of Humanity by VIS-CUST & Akhuwat Clothes Bank	May 30, 2019	Students of VIS-CUST with the collaboration of Akhuwat Clothes Bank managed "Mall of Humanity" at CUST campus, Islamabad where In-Kind Gifts distributed among subordinate staff of Capital University of Science and Technology (two hundred families).
09	VIS Directorate -CUST & Helping Hand for Relief and Development	July 20, 2019	The event on the theme of “ <i>Mall of Humanity</i> ” was organized by the volunteers in Service (VIS) CUST and Helping Hand for Relief and Development. This event was held at Union Council 13, Humak. Students of Capital University of Science and Technology and Manager of VIS Directorate managed the event professionally. Students were facilitated during the event as per university authority. More than 300 families benefited from this event.





The Capital University of Science and technology collaborates with Pakistan “Thalassaemia Welfare Society” and “Office of the Chief Commissioner, Pakistan Red Crescent (FCB)” every year for a blood donation campaigns. This campaign aims to promote health conditions and lifestyles for thalassaemia patients.

Pakistan Red Crescent plans its visit to the capital university of science and technology every year for providing first aid training to the students.

Sr No.	Activity	Date	Description
01	Blood Donation Camp – The Volunteer in Service Directorate join hands with Pakistan Thalassemia Welfare Society	23 rd October 2020	Volunteers In Service Directorate-Capital University of Science and Technology and Pakistan Thalassaemia Welfare Society jointly organized a blood camp at the CUST campus. Volunteerism was witnessed in this camp at its peak as the no bed remains empty from 10:00 Am till 3:00 Pm. More than 100 bottles were donated.
02	1 st First Aid comprehensive training	30 April 2020	The First Aid training session was organized by VIS Directorate, CUST with Pakistan Red Crescent where a number of students and faculty members donated the blood. Service.
03	First Aid Training (2020)	28, 29, and 30 th September 2020	With reference to Resolution No. 471, unanimously passed by the Senate of Pakistan regarding

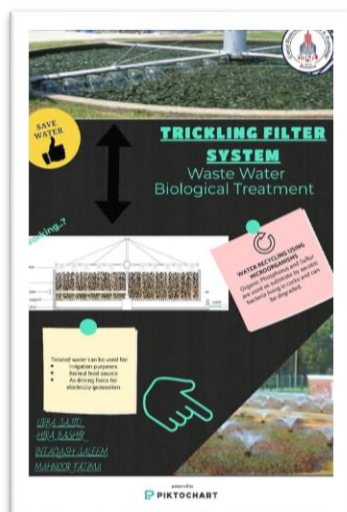
			<p>First Aid training, the First Aid comprehensive training three days session 3rd time was organized by VIS Directorate, CUST with the collaboration of Office of the Chief Commissioner, Pakistan Red Crescent (FCB) on at CUST.</p> <p>Following all SOPs regarding Covid 19, the faculty and students of CUST participated in this training session.</p>







The Genix society, the department of bioinformatics and biosciences carried out a poster designing competition. The competition was fully focused on water pollutions and the harms it is causing to live on Earth. Water pollutants include contamination due to domestic wastes, insecticides and herbicides, food processing waste, pollutants from livestock operations, volatile organic compounds, heavy metals, chemical waste, and others. Eighty percent of the world's wastewater is dumped largely untreated back into the environment, polluting rivers, lakes, and oceans. This widespread problem of water pollution is jeopardizing our health. Unsafe water kills more people each year than war and all other forms of violence combined. This competition aimed to bring awareness among the students and the public about water pollution and the harms it is causing to life on Earth. The students participated in the competition very enthusiastically and showed wonderful outcomes.







Capital university of science and technology has always been working hard to provide its student with the best technology since day one. It has been trying its best to create a good impact for the betterment of the world. Therefore, taking into consideration the increasing range of the demand for electricity, Capital University of Science, and technology-equipped its premises with Solar based technology in the year 2020. It has been successful in producing 13,00,000 Units annually, the units produced Average per day is 3650 Units, Average Unit Consumption is 650 KW and the Units Exported to WAPDA per Month is 30000 Units. This clearly shows that the university has been successful in benefiting the environment and is fulfilling SDG 7, i.e. “Affordable and clean energy”.







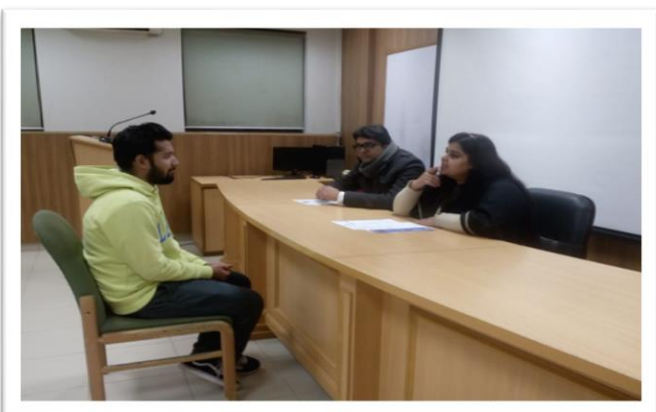
Placement Office is formed for the enhancement of cooperation and working opportunities for graduates of Capital University. The focus is to maintain a corporate relationship with esteemed employers for a new assortment of opportunities. Capital University of Science and Technology is known for academia and professional excellence; it's an academic capital of Pakistan with well erudite and professional students. Placement Office guides students to their career needs and equips them with the skills required to win an interview and job. The office is aimed to create a professional relationship with potential employers and support them in finding the best fit for their organization. Its mission is to add value through the pursuit of professional excellence; liaison with industry and creating an environment of comprehensive assistance to the CUST students into the professional world. It aims in the enhancement of the employability skills among the students to meet out the corporate expectations and place students in reputable organizations.

Virtual Sessions and Activities

Sr#	Activities	Date
1	1st NIC-CUST Entrepreneurship Course Integration Meeting	1st Sep,2020
2	First NTS-GAT Test at CUST Campus	23rd Aug, 2020
3	Virtual Session on Digital Marketing as an emerging Marketing tool	16th June 2020
4	Virtual Session on Hospitality and Tourism 2020	9th June 2020
5	Handling Stress and Anxiety during COVID 19 by Dr. Fraz Talat	4th June, 2020
6	Challenges and Opportunities for Sales Management Team Personnel by FFC	2nd June, 2020

7	Premier Business Conference "Aspire" hosted by RCCI(Rawalpindi Chamber of Commerce & Industry)	27th May 2020
8	Virtual Session on how Ufone is coping up with COVID 19 Pandemic	19th May 2020
9	Webinar on The Skillset required to maximize the chances to get a job amid COVID 19 pandemic by Pepsi Isb	14th May 2020
10	2nd Virtual Session by NIC(National Incubation Centre)	12th May, 2020
11	1st Virtual Session of NIC(National Incubation Centre)	5th May 2020
12	Awareness Session on the UN new ways of Working/ Nexus	11th March 2020
13	SME Financing Awareness Session by Deputy Director SBP-BSC	28th Feb, 2020
14	Pink Ribbon and Coffee Morning (Breast Cancer Awareness Session)	11th Feb,2020
15	RCCI Technology Expo at Pearl Continental Hotel Rawalpindi(Rawalpindi Chamber of Commerce & Industry)	3rd & 4th Feb,2020
16	On campus interviews of female graduates for Emerging Visions Pvt Ltd	20th Jan, 2020
17	Briefing About Federal Inland Revenue Domestic Taxes	7th Jan 2020
	Activities of Fall 2019	
1	On-Campus Hiring Of Graduates by Planet Beyond Pvt Ltd	30th Dec, 2019
2	Student Placement in Pepsi Co	27th Dec, 2019
3	Job Recruitment Drive by ATWICS (Immigration Consultancy)	18th Dec, 2019
4	Students' Participation in PTCL Tech Talks	18th Dec, 2019
5	Session on International Human Rights Day by INSPIRE Pakistan	10th Dec,

		2019
6	DBTV trains CUST students/alumni on Mobile Journalism	27th Sep, 2019







The Capital University of Science and Technology is located in a green locality. It is widely covered with farmlands, with extensive vegetation and croplands owned by local farmers, rural areas, and is covered with forests. There is a water stream that is running from the backside of the university which contributes to the beatification of the university. As the campus is located away from the crowded cities it not only has less noise pollution but also has less carbon footprint.

The Capital University of Science and Technology covers 177 Kanals of which the green area and playground are 109 Kanals and the paved area that is building, parking, and café is 68 Kanals. The 68% green area covered helps to reduce the carbon footprint and helps to contribute to climate change. By using solar energy CUST has reduced the use of non-renewable energy which further helps in a sustainable future. To reduce the impact of climate change every year CUST initiates to plant a number of trees in university.

Taking into consideration the current situation of coronavirus, Capital University of Science and technology carried out different sessions for the students to help them tackle the situation. It included the brainstorming session for online classes, online affective nature assessment in lab courses, online form training, conducting the online assessment, session on “Assessment from Course Level to Cohort with their KPIs”, a session on “How to ensure quality in Administrative tasks?”. Furthermore it also included students’ training on “How to cope up with online Education?”, training on “How to attempt online Quiz?”, interaction with academic and industrial supervisors for solving queries, Training on “How to use screen sharing technique to show software skills, and the training of students on the topic "How to actively participate in online affective nature activity of labs". In addition to this, Dr. Shuja supervised 2 projects i.e. 0 Planning and Designing of Green Infrastructure of an Urban Area (BS students) at RCCI, Rawalpindi, and Sustainability in Construction Projects (MS).



Capital University of Science and technology is playing its part in the betterment of the climate by integrating the different aspects of the courses so that students can get an idea about how can they play a role in the current scenario where global warming is the major issue. Different teachers of different departments are teaching courses that highlight the climatic aspects. One of the instances is Dr. Shujaa Safdar Gardezi currently working as “Assistant Professor” in the Department of Civil Engineering currently working as “Assistant Professor” is teaching a course that focuses on climate change in urban areas, covering how cities are affected by climate change, how they contribute to it, as well as how they plan for it. This specialized module introduces the theme of climate change in urban areas. The world is becoming more and more urban and therefore cities are important actors in addressing climate change. The module will cover both how cities are affected by climate change and how cities are contributing to climate change. Also, the module will look at how climate change adaptation and mitigation can be considered in urban planning and identify concrete measures. Several examples of how cities can play a transformational role in addressing climate change are presented.

Meetings and Guidance - 2020

No	Activity	Location	Date	Achievements
01	<p>Directorate of Sustainability and Environment (DSE) of Capital University of Science and Technology (CUST) held a meeting with Ms. Javeria Qais, Director DSE-UCP to get complete guidance from Ms. Javeria Qais.</p> <p>Activity</p> <ul style="list-style-type: none"> ➤ Meeting with VC, HOD's and Deans ➤ Meeting with faculty, staff, and DSE focal persons in each department. ➤ Meeting with ambassadors of DSE 	CUST campus	21 st February	<p>There were a total of 3 meetings held with Ms. Javeria Qais. She appreciated that a focal person from each department was present in the DSE committee. An interesting interaction was held to assess the current quality work already being done at CUST. Moreover, it was discussed how to streamline future activities as per the United Nation's Sustainable Development Goals (SDGs). Ms. Javeria Qais greatly encouraged working with VIS society and supporting each other. During the meeting, Prof. Dr. Majid Ali highlighted the sustainability measures that he had taken as the head of the Health, Safety, and Security Committee at CUST. Moreover, he discussed that his department has a keen interest in Agenda 2030, which is being demonstrated in their research themes.</p>

02	Talk on sustainability: An interview with the Director of "Department of Sustainability and Environment (DSE-UCP)" Mrs. Javeria Qais and Prof. Dr. Qais Aslam from University of Central Punjab (UCP) Lahore on the topic of Sustainability and Green Metric, was conducted by the Ambassadors of "Directorate of Sustainability and Environment (DSE-CUST) over at Voice of Capital FM97.6 studio.	CUST Campus	22 nd February	They told us about how CUST can make DSE efficient and provided fruitful ideas and productive solutions to today's problems. They also delivered the talk about sustainability and elaborated on how DSE can be listed on top of the green Metric list.
03	Agenda 2030 – Taking the Faculty and Staff on board	CUST Campus	5 th March	Meeting with CUST faculty and staff Ms. Javeria Qais, Director DSE-UCP stated that the Directorate of Sustainability and Environment is indeed a joint effort of all the departments together. She appreciated that a focal person from each department was present in the DSE committee.
04	A session with Vice-Chancellor	CUST Campus	5 th March	Preparing CUST for UN's Sustainability Agenda

05	Preparing Sustainability Ambassadors for Agenda 2030	CUST Campus	5 th March	<p>Ms. Javeria Qais, Director DSE- UCP, delivered an exhilarating speech on Friday, 21st February 2020, where she covered all the important aspects of the Directorate of Sustainability and Environment (DSE). She also presented concrete solutions to tackle potential problems faced by the ambassadors. Moreover, she shared her prior experiences and she also helped brainstorm future events in CUST by the DSE, which everyone should look forward to.</p>
06	Dinner with Director of Italian Aid Agency, Ms. Emanuela	Residence of Director of Italian Aid Agency	10 th March	<p>The meeting was held to discuss the possibilities of creating a youth platform between the youth of Pakistan and Italy, in order to cooperate in the following areas:</p> <ul style="list-style-type: none"> • Sustainability youth business startups • Olive culture and farming <p>Promoting youth-invented drones, cameras, and various electronic technologies for farming activities.</p>

07	Meeting with UNDP and Planning commission		10 th March	The agenda of the meeting was to plan activities of development and sustainability. The MOU was also signed in this meeting.

Activities conducted by the Civil Engineering Department – Spring Semester 2020

A. Training within the Department

S.no.	Project/Activity	Resource Person/ Instructor / Supervisor
1	Brainstorming session for online classes	Dr. Ishtiaq Hasan
2	Brainstorming session with faculty by the Head of the department	Dr. Ishtiaq Hasan
3	Online affective nature assessment in lab courses	Dr. Majid Ali
4	Online form training	Dr. Shujaa Safdar
5	Brainstorming session on the online assessment	Dr. Ishtiaq Hasan
6	Brainstorming Session on “Prevention of Cheating Unpermitted Collaboration and Plagiarism”	Dr. Majid Ali
7	Brainstorming Session on “Assessment from Course Level to Cohort with their KPIs”	Dr. Majid Ali
8	Brainstorming Session on “How to ensure quality in Administrative tasks?”	Dr. Majid Ali
9	Students’ Training on “How to cope up with online Education?”	Dr. Majid Ali
10	Students’ Training on “How to attempt online Quiz?”	Dr. Majid Ali
11	Interaction with academic and industrial supervisors for solving queries	Dr. Majid Ali
12	Students’ Training on “How to use screen sharing technique to show software skills	Engr. Mehran Sudheer
13	Training of students on the topic "How to actively participate in online affective nature activity of labs"	Engr. Sohail Afzal
14	Students’ Training on “How to respond online viva nature questions during affective assessment”	Engr. Mehran Sudheer
15	Students’ Training on “How to attempt online Final	Dr. Ishtiaq Hasan and Engr.

	Examination”	Huzaifah Zahran
16	Students’ Training on “How to make effective use of limited page space for a conceptual numerical exam?”	Dr. Majid Ali
17	Students’ Training on “Alternate approaches to demonstrate hands-on learning”	Engr. Kainat Shah
18	Students’ Training on “How to attempt effectively online exam of mathematical courses?”	Engr. Iqbal Ahmed
19	Students’ Training on “Effective submission of Online Exams Answer Sheets”	Engr. M. Usman Farooqi
20	Training session on “Internship scenarios in COVID-19 situation”	Dr. Shujaa Safdar and Engr. Talha Tahir
21	Training session on “Thesis writing in Latex”	Engr. Shehryar (CUST graduate alumni)
22	“Health and Safety Training for Internship – Summer 2020”	Dr. Majid Ali

B. Trainings / Short Courses Outside Department / University

S.NO.	Project / Activity	Resource Person/ Instructor/ Supervisor
23	Title: HEC - NBEAC Webinar - Leading the Future of Tertiary Learning and Teaching, A Transformational Roadmap for Online Teaching.	Engr. M. Usman Farooqi
24	PEC CPD webinar on “Stress Management” by Prof. Dr. Naveed Ramzan,	UET Lahore Engr. M. Wajahat Ali Khawaja
25	Cities and Climate Change	Dr. Shujaa Safdar
26	Introductory E-Course on Climate Change	Dr. Shujaa Safdar
27	Climate Change from Learning to Action	Dr. Shujaa Safdar
28	Writing in the Sciences	Dr. Shujaa Safdar
29	How to Access HEC Digital Library Remotely & ProQuest Databases Training	Dr. Shujaa Safdar

C. Posters / Seminars

S.NO.	Project/ Activity	Resource Person/ Instructor/ Supervisor
30	0 Planning and Designing of Green Infrastructure of an Urban Area (BS students) at RCCI, Rawalpindi	Dr. Ishtiaq Hasan

D. Subjects

S.NO.	Project/ Activity	Resource Person/ Instructor/ Supervisor
--------------	--------------------------	--

31	Sustainability in Construction Projects (MS)	Dr. Shujaa Safdar
----	--	-------------------

Activities conducted by Civil Engineering Department – August and September 2020		
S.No.	Activity	Resource Person / Instructor / Attendee
A	<u>Trainings within Department/ University</u>	
1.	Brainstorming Session on “Complex Engineering Problems / OEL / PBL” (Resource person: Engr. Prof. Dr. Majid Ali)	Dr. Majid Ali
2.	Brainstorming Session on “Class Issues Management” (Resource person: Engr. M. Usman Farooqi)	Engr. Usman Farooqi
3.	Problems faced during online classes and their Solutions - VLE Platform	Dr. Shujaa Safdar
B	<u>Trainings / Short courses outside Department / University</u>	
4	PEC CPD webinar on “Factor Affecting the Performance of R.O. (Reverse Osmosis) Plant” by Engr. Malik Saleem Ullah Saeed, COO – Water Engineering & Management Services (Pvt.) Ltd.	Engr. Muhammad Wajahat Ali Khawaja
5	CPD webinar on “Time and Stress Management” by Amir Khisro, NPO Ministry of Industries and Production Pakistan	Selected Faculty and Lab Engineers
6	Introduction to Green Economy	Dr. Shujaa Safdar
7	Online CPD workshop on “Publishing in High Impact Factor Journals” by Dr. Abdul-Sattar Nizami, Continuing Engineering Education, UET Lahore.	Selected Faculty and Lab Engineers
8	CPD webinar on “OBE: Complex Engineering Problems, OEL and PBL” by Prof. Dr. Shaukat Ali Khan, in UOL Islamabad	Selected Faculty and Lab Engineers
C	<u>Posters / Seminars/ Research Thesis</u>	
9	Evaluation of Hydraulic Condition of Soan River at Downstream of Chirah Station to Plan and Propose Water Turbines	Dr. Ishtiaq Hassan
10	Comparative Analysis of Green Building Rating Systems for Sustainability Assessment of a Residential Building	Dr. Shujaa Safdar

Activities conducted by the Mechanical Engineering Department- Spring Semester 2020

S.NO.	Project/ Activity	Instructor / Supervisor
1.	Publication entitled “Role of the orientation of fins in performance enhancement of a latent thermal energy storage unit” in Applied Thermal Engineering Journal (IF: 4.025) The project involves a Fabricated model and Numerical Modeling for efficient utilization of heat.	Dr. Muhammad Khan
2	A report on the movie “Dark Waters” representing the key points of the impact of water pollution by Industry.	Mr. Saif Ullah
3	A report on “Potential changes to expect in campus life after COVID-19”.	Mr. Saif Ullah
4	The design heat exchanger of capacity 1-1.5 KW on ANSYS and investigate the effect of key variables like Temperature, Pressure, and Material properties to enhance unit performance.	Muhammad Ahmed
5	Advance Vehicle Parking System Using PLC	Mr. M. Talha Jamal
6	Automatic Railway Gate Control using PLC	Mr. M. Talha Jamal Solaija
7	IOT Based Smart Agriculture Monitoring System	Mr. M. Talha Jamal Solaija
8	Object Follower Robot	Mr. M. Talha Jamal Solaija
9	Water Irrigation System using PLC	Mr. M. Talha Jamal Solaija
10	Fire Alarm System	Mr. M. Talha Jamal Solaija
11	Liquid Level Maintainer	Mr. M. Talha Jamal Solaija
12	Motion Activated Light with ARDUINO and HCSR04 sensor	M Zia Ullah Khan
13	Automatic Light Intensity Adjustable Lamp	M Zia Ullah Khan
14	Development of portable solar power plant	Mr. Tauseef Ahmed
15	Design and development of mechanism to generate electricity from speed breakers	Dr. Salman S. Warsi
16	Cost effective design and development of 2 kW solar thermal power plant	Mr. Tauseef Ahmed
17	Design optimization of water vortex turbine	Mr. Tauseef Ahmed
18	Design and fabrication of biomass prototype plant	Dr. Khawar Naveed
19	Solar thermal collector (parabolic trough collector PTC)	Mr. Saif Ullah

20	Design, analysis, and manufacturing of chamber converting waste polyethylene into fuel	Mr. Atif Bin Asghar
21	Design and development of power generation a system using Pelton wheel	Dr. Irfan Manarvi
22	Design and fabrication of thermal energy storage a system using phase change material	Mr. Saif Ullah
23	Design and fabrication of a prototype thermal heat storage unit for a commercial building	Dr. Mahabat Khan
24	Design, analysis, and fabrication of shell and tube latent thermal energy storage unit using circular and triangular tubes	Dr. Mahabat Khan

Activities Conducted by the Department of Bioinformatics and Bioscience Spring Semester, 2020			
Sr. No.	Seminars/ Events/ Campaigns	Description	Instructor/ Supervision
01	Poster Competition Title: Waste Management	An online poster competition was conducted for students of Biotechnology as an effort to introduce them to the recycling of waste.	Dr. Erum Dilshad
02	Poster Competition Title: Water Day Competition	30 posters were prepared on different medium with several themes related to water conservation policies. Modern and traditional tools were used by students to present themes. Working models were also prepared	Dr. Arshia Amin Butt
03	Wildlife day competition	Pictures of wild birds, animals, flowers were presented in an exhibition as an effort to introduce students to the significance of natural and wild flora and fauna. Rapid urbanization, deforestation, the	Dr. Arshia Amin Butt

		introduction of monoculture crops are responsible for the early sixth mass extinction of several animal and plant species and pollinators. Students were introduced to the idea of maintaining Wild while keeping our food and shelter needs under consideration.	
04	Awareness Talk	Talk on FM radio related to awareness of COVID-19	Dr. Arshia Amin Butt
05	Project Submission	The project was submitted named: COVID Virus sustainability in air particulate matter and its air retention time depending on pollution level in urban and rural areas	Dr. Arshia Amin Butt
06	Project Submission	<p>Topic: Identification and Analysis of Bacterial Species Associated with Lead Bioremediation found in Faisalabad (Industrial zone), Pakistan</p> <ul style="list-style-type: none"> Submitted and approved by three students (Mr. Sarmad Habib Khan, Miss Rida, Mr. Syed Ali Raza) of the Department of Bioinformatics and Biosciences. 	

		<ul style="list-style-type: none"> • Initial working and sampling are done. • The project aims to find ways to remediate lead-contaminated soil and water with inert biological strains. 	
07	<p>Certification of Dinner Break Series of seminars</p> <p>Attended by Dr. Arshia Amin Butt</p>	<p>Title: The Strategy of Risk Communication and COVID-19.</p> <p>By Sean Kaufman, CEO and Founding Partner of Safer Behaviors (USA).</p>	
08	Seminar	Talk at University of Central Punjab Association of foods and lifestyle in cancer	Dr. Shoukat Iqbal
09	Seminar	COVID-19, its genomics and variations	Dr. Shoukat Iqbal
10	Project	<p>Topic: Waste management</p> <p>Description: Two students Miss Nawal and Miss Komal Tariq have designed and approved the above-mentioned project. It aims to find methods for the management of home-based organic waste</p>	Dr. Sahar Fazal
11	Entrepreneurial Environment-friendly Project	<p>Writing Activity</p> <p>a. Production of Edible Mushrooms as an alternate source of Protein</p>	Dr. Sahar Fazal

		b. Production of Biofertilizers using Agricultural waste products c. Hand Sanitizer Production d. Organic farming in the Private and Public sectors of Pakistan e. Tissue Culturing of tulip for Commercial Purpose f. Worm Compositing for organic Framing g. Use Moss to fight air pollution h. Biogas Production organic Waste	
12	Project submitted	Titled as Investigation of COVID -19 in Pakistan by Integration of Artificial Intelligence and Epidemic Modelling Methods for Public Health Surveillance System	Dr. Sahar Fazal
13	Online Innovation Summit	Topic: IRP.COVID 19 Disinfection Strategies and Technologies	Dr. Sahar Fazal
14	Online Session on	Topic: COVID-19 by IRP. S&T Policy Advocacy for COVID-19; Instrument to Prevent Global Crisis Like COVID-19	Dr. Sahar Fazal
15	Project	Title: Earthworms as an alternative source of food for Poultry Activity aimed to explore scientifically alternative food sources for poultry for the sustainable and self-sufficient poultry sector.	Dr. Sahar Fazal

16	WWF Ambassadorship Department of	Bioinformatics and Bioscience student: Miss Syeda Eman Bukhari was given ambassadorship to represent CUST at the prestigious forum of WWF. CUST- Students She has been very actively participating in organizing different awareness programs and internship programs with their collaboration.	CUST Students
17	COVID-19 awareness Page	Facebook page was launched by Biosciences students for spreading awareness of COVID 19, precautions, scientific progress. Students actively participated in it and not only shared scientific knowledge but also shared motivationally storied related to recovery from disease.	Faculty Department of Bioinformatics and Biosciences and students
18	Young Internee Internship Program	Almost 40 students of the Department of Biosciences volunteered for internships at WWF and are actively taking part. The Program was also introduced to remaining programs at University and volunteers were welcomed to join.	CUST- Students
19	Article Published:	Department of Bioinformatics and Biosciences published	Miss Rida Batool

		an article titled: “ Animal testing is killing the Animal” CUST- Student	
--	--	---	--

Social Events – 2019			
Sr. No.	Seminars/ Events / Campaigns	Description	Instructor/ Supervisor
01	Seminar on Climate Change Impacts: Science and Mitigation	The guest speaker briefed the audience about the concept of climate change, its science, impacts, and mitigation measures which are the major contributors to climate change, and how efficiently mitigate its impacts to achieve environmental sustainability.	Dr. Anjum Rasheed, is Assistant Professor in CCRD, COMSATS University, Islamabad
02	Plantation Campaign	CUST faculty members and students fully participated in this campaign. Director Student Affairs, Dr. Muhammad Sagheer; Dr. Fazalur Rehman; and Dr. Mazhar also participated in this plantation campaign. Along with that more than 100 students of CUST participated in this campaign and planted over 700 trees	Volunteers in Service (VIS) CUST and Office of the Chief Commissioner, Islamabad and Helping Hand for Relief and Development
03	The Impact of Human Activities on climate change	Students were enlightened regarding the severity of climate change issues such as global warming, water scarcity, plastic	Mr. Hans J. Hausmann (Advisor from German Red Cross at Climate Change Adaptations Department in Pakistan Red Crescent Society)

		<p>pollution, and threats to flora and fauna and linked it all as consequences of human activities. Students were guided to stop strangling the natural beauty of human benefits. He also mentioned the endangered species of Pakistan such as, Markhor, Indus Dolphin, etc. and describes the kinds of human activities that pose threat to the natural environment.</p>	
04	Seminar on “Human-Wildlife Conflict in western Himalayan Eco-Region of Pakistan”	<p>The main aim was to spread awareness about conservative measures and specifically his work for the conservation of Asiatic Black Bear and Common Leopard. Details were also shared regarding Eco-Internship program, held by WWF for all the students who want to participate in direct at hand interactive activities for Wildlife and Nature Conservation.</p>	<p>1. Muhammad Waseem (Manager Research & Conservation Pakistan); 2. Muhammad Awais (officer- Youth Development Program)</p>
05	Campus Sustainability Campaign & Poster Competition	<p>Students from all departments of the university participated in the campaign. The campaign was ended on another event of “Poster competition on Water and Energy Conservation”. The concept was to create</p>	<p>Civil Engineering Department under the umbrella of ASCE.</p>

		awareness among students regarding the importance of natural resources to conserve for meeting future demands.	
06	CUST student participates in a conference “Climate Resilience. Role of Civil Society and Organizations”	Dr. Ansar (18th Dec)	Ms. Zartaj Gul Pakistan Humanitarian Forum
07	Seminar on “The state of Pakistan's economy challenges and way forward”	Ms Maria (16 dec)	Ms. Neelum Nigar Research fellow at China Pakistan study Center, Institute of strategic studies, Islamabad.
08	Seminar on Current Economic issues of Pakistan	Ms. Rabia Habib (30 th October)	Mr. Wasiq Qayyum Abbasi – (MPA) Chairman of Punjab Education

Social Events – 2020

Sr. No.	Seminars/ Events/ Campaigns	Description	Instructor / Supervisor
01	Seminar on “Youth Development Program by WWF (World Wide Fund on Nature)	WWF talked about different development programs offered by WWF and the opportunities for the students to participate in these programs. During the seminar, there was mention of volunteer work opportunities of 45 hours, which after discussion with faculty members and VIS, were agreed to be extended to 65 hours as per CUST VIS policy	Ms. Rafia Mahmood, Senior Officer-Youth Development Programme, and Ms. Zarmina Khan, Officer-Youth Development Programme.
02	Seminar on “The United Nations Humanitarian vs Development System”	Dr. Nasr shared detailed stories of his visit to countries that had sent distress calls to OCHA. He said his initial visits and observations shed light on how aid is designed specifically for specific countries and cultures. He pressed on the point that the aid should not be only basic but well thought through and should include all necessary items required for survival. Dr. Nasr explained the process of how an observable and uncontrollable situation (by the country) is reported to OCHA and the OCHA responds to	Dr. Iyad H. Nasr - Head of United Nations Regional Office for the Coordination of Seminar on “The United Nations Regional Office for the Coordination of Humanitarian Affairs (OCHA) in the Middle East and North Africa.

		the call step by step after which many groups are activated specifically for the aid of that country. Dr. Nasr answered all the queries and questions with the utmost detail and concentration.	
03	Director DSE on Royal News TV Channel to discuss the socio-economic impact of Covid19. The state-of-the-art virtual technology being used by CUST to keep the students fully engaged was also discussed.	The interview led to the points raised about scarcity and markup rates set by the State Bank of Pakistan. Moreover, its impact on the changing dynamics of the education sector was also the highlight of the show. Also, the new ways to use technology by students were discussed. It was told that CUST has taken appropriate measures for the smooth running of the education sector.	Royal TV News
04	International sustainability Week	The DSE-CUST sustainability conducted a sustainability week to bring awareness among the students. It started on Tuesday 20th October 2020. The first event of the week was the Photography competition in which the students involved in the competition were guided to take pictures. The second event was the Webinar with Ms. Javeria Qais Joya from DSE-UCP. Ms. Javeria was discussing with us	Dr. Saira Ahmed and Ms. Azza Malik

		<p>how we can include more sustainable and safe options in our university and everyday life, some internship opportunities were also discussed along with how to maintain sustainability along with the current pandemic. The third event was a Videography competition with 2 competing groups. The fourth event was a Scavenger hunt. The final event was an award ceremony where all of the winners got certificates along with cash prizes. We had guest judges, namely Engr. Waleed Farooq, Sir Usman Javed, and Sir Muhammad Ubaid Ur Rehman for certificate and prize distribution. This final event marked a successful end to our Sustainability week with a high rate of student participation. The DSE is hoping to hold many more events like this in the future which will create a learning and fun opportunity for the students.</p>	
--	--	---	--

Social Media Posts – 2020

Sr. No.	Posts	Date	Description
01	Women's Day	8 TH March	<p>Women now make up to 45 percent of paid workers outside of agriculture, compared to 35 percent in 1990.</p> <p>The United Nation's Sustainable Development Goals (SDGs), and Goal 5 in particular, aim to build on these achievements to ensure that there is an end to discrimination against women and girls everywhere.</p> <p>An inclusive world for ALL!</p>
02	WWF - Pakistan Youth Development Program	09 th March	<p>The Directorate of Sustainability and Environment (DSE) hosted WWF Pakistan for an Outreach Session, at Capital University of Science and Technology to brief students more about WWF-Pakistan Youth Development Programme, with a strong emphasis on upcoming opportunities for the students, in summer.</p> <p>The speakers included Ms. Rafia Mahmood, Senior Officer-Youth Development Programme, and Ms. Zarmina Khan, Officer-Youth Development Programme. During the seminar, there was mention of volunteer work opportunities of 45 hours,</p>

			<p>which after discussion with faculty members and VIS, were agreed to be extended to 65 hours as per CUST VIS policy.</p>
03	United Nations Humanitarian vs Development System, UN	11 TH March	<p>A seminar was held on The United Nations Humanitarian vs Development System, UN. The guest speaker was Dr. Iyad H. Nasr who is the Head of the United Nations Regional Office for the Coordination of Humanitarian Affairs (OCHA) in the Middle East and North Africa. Dr. Nasr gave a distinct description of what OCHA is and how it works.</p> <p>Dr. Nasr also shared detailed stories of his visit to countries that had sent distress calls to OCHA. He said his initial visits and observations shed light on how aid is designed specifically for specific countries and cultures. He pressed on the point that the aid should not be only basic but well thought through and should include all necessary items required for survival.</p> <p>Dr. Nasr explained the process of how an observable and uncontrollable situation (by the country) is reported to OCHA and the OCHA responds to the call step by step after which many groups are activated specifically for the aid of that country. Dr. Nasr answered all the queries and questions with the utmost detail and</p>

			concentration.
04	Director DSE on Royal News TV Channel to discuss the socio-economic impact of Covid19.	25 th March	Moreover, its impact on the changing dynamics of the education sector was also the highlight of the show. The state-of-the-art virtual technology being used by CUST to keep the students fully engaged was also discussed. These are difficult times and sustainable efforts using information technology ensure that students' semester gets completed smoothly.
05	Earth Hour 2020	28 th March	Join the world and get ready to switch off for our planet. Turn off all inessential and unnecessary lights 💡 between 8.30 pm and 9.30 pm and be part of the largest environmental movement for our shared home.
06	How Nature got a break from COVID-19	3 rd April	<p>COVID -19 or The Coronavirus has been declared as a pandemic by the WHO (World Health Organization), it has affected over 199 countries worldwide. Originated from Wuhan China has caused global chaos. The coronavirus is upending everything from aviation to the economy, and it sure has impacted the environment.</p> <p>This is how: • Since the beginning of the outbreak, the scientists have registered a decrease in air pollution. Mainly in all those countries in the world that are undergoing</p>

			<p>lockdown.</p> <ul style="list-style-type: none"> • Carbon dioxide emissions have decreased drastically, leaving cleaner air. • This pandemic has caused a drastic reduction in the use of fossil fuels. • And as some reports say, that the ozone layer has started to recover due to this pandemic. <p>The 2 countries at the top of the list who have been affected badly by the Corona Virus are China and Iran, some of China and Iran's heavily populated cities like Beijing and Esfahan respectively now have clear blue skies.</p> <p>To be clear, the coronavirus pandemic is a tragedy as we are losing lives every single day. It sure is a human nightmare and an economic disaster. And it will take a lot of time and effort to recover this damage. But in the midst of this deadly outbreak, the Earth is becoming healthier so, in order to ensure that this progress is not lost, it is important for all of us to remain climate-conscious even after all of this is dealt with.</p>
07	Pakistan's First Patient	3 rd April	<p>The first novel coronavirus patient was reported in Karachi. The patient was a student from a town on the outskirts of Karachi. The boy was said to have contacted the coronavirus from the holy city of Qum, Iran. He was</p>

			<p>diagnosed on FEB 26th, which was 10 days after returning from a pilgrimage in a group of 28 people. The family of the student was also immediately quarantined.</p> <p>Although in isolation, the student tested negative 3 times before he was actually diagnosed. He had been regularly attending university the days before he was diagnosed, and it is believed that many people contacted the virus from contact with him.</p> <p>Since that time the student has fully recovered and returned home. He is in much better health. The student shared that he received a lot of backlash from his peers since his diagnosis, but he defends that he had taken multiple tests that came out negative leading him to believe that he could take regular university classes.</p>
08	A Salute to the Resilient Nation of Pakistan	4 th April	"A Salute to the Resilient Nation of Pakistan" PK Video
09	Earth Day	22 nd April	<p>It is the one day in a year that the inhabitants of Earth (us) are so appropriately dedicated to our Planet. It is the one day designated to support the environmental protection efforts held across the world.</p> <p>The idea of Earth Day was first proposed at a UNESCO conference in 1969 at San Francisco by peace</p>

			<p>activists John McConnell. He suggested that there should be a day designated to celebrate the Earth. The original date was March 21 but later April 22nd was designated Earth Day.</p> <p>Numerous countries and communities Celebrate Earth day around the world and mostly by some sustainable efforts made by that community.</p> <p>Due to the current Pandemic and the lockdown it has caused, many people have started planting 🌱 their own organic garden. That is an amazing sustainable effort and if every person took to planting one vegetable fruit or any plant they will be receiving fresh organic produce and making a sustainable effort for Mother Earth.</p>
10	Food Waste Action Week	12 th March	<p>The week will last from *11th May to 18th* May This will be the first of its kind and is an initiative started by the UK's government. Ben Elliot the UK government food waste champion announced the week and urged everyone to go along with this initiative as food waste happens to be one of the biggest collections of waste on a household basis. Everyone should work on an individual level to reduce food waste, some important tips to</p>

			<p>help you start reducing food waste at home can be</p> <ul style="list-style-type: none"> • Try not to make surplus food. • Do not make any fresh batches of food when you have leftovers in the fridge. • Try to have a day in the week dedicated to only eating leftovers (don't make any fresh dinners this day). • Try to donate food that has been laying in your pantry unused before its expiration date, that way it won't go to waste. • Try to make compost out of the fruits and vegetable peels you collect. • If you fear that something in your fridge might go bad before you eat it, freeze it and use it another day. <p>Just because the initiative was founded by a different country doesn't mean we cannot do our own version of it, starting from our own homes.</p>
11	Mental Health Awareness Week	20 th May	<p>Monday 18th May 2020 is the start of Mental Health Awareness week, this is an event hosted by the Mental Health Foundation in the UK, and this has been their tradition since 2001. This year's theme for Mental Health Awareness Week is 'KINDNESS'. We believe it is absolutely befitting for this year since the pandemic that</p>

			<p>has been going on around the world has caused a worldwide lockdown and has been psychologically affecting people around the world. Those safe from the virus are not safe from their inner demons, their thoughts, or the internet trolls. Then come those who already have mental health issues, the ones who cannot see their therapists or their confidence due to the pandemic and social distancing. You can help spread Mental Health Awareness around the country by just using the devices at your disposal. You can write about mental health issues that you are aware of, share your examples, and even set up online fundraisers to donate to organizations that are helping out the people who suffer from these mental health issues and spread awareness. In addition, this event also connects with the UN's SDG 3 which is 'Good Health and Well-being'. Remember that in this time of need any small form of help is appreciated.</p>
12	World Environment Day	5 th June	<p>World environment day was designed by the UN General Assembly in 1972 on the first day of the United Nations Conference on the Human Environment. Since 1974 the World Environment Day became the global celebration with the theme "Only One</p>

			Earth”
13	Water Waste	17 July	As we all know, Pakistan is an agricultural country, this means that our economy depends a lot on agriculture. Ultimately this has led to Pakistan having the fourth-highest rate of water usage. Many people may already know that Pakistan has crossed the ‘water stress line’ in 1990 and the ‘water scarcity line’ in 2005. According to experts if we do not start worrying about our water consumption, we could run out of the water by 2025.
14	UN Climate Action Goal	20 th July	Pakistan is among the countries which are the most vulnerable to climate change and global warming. Despite the risks, vulnerability, and its very low technical and financial capacity, Pakistan has been able to achieve the UN climate action goal 10 years ahead of its actual deadline. Pakistan has certainly achieved a very crucial milestone by reaching the UN sustainable development goal number 13, which is 'combating climate change and its impacts'.
15	Pakistan Is Facing major locust attack since June 2019	July 22	It is the first of its magnitude since 1993. Since then, there have been major attacks in Karachi and in KPK and Balochistan provinces since January 2020 and are still ongoing. It is believed the locust have entered Pakistan

			<p>through Iran to the southwest of Balochistan.</p> <p>Locusts are actually short-horned grasshoppers that invade agricultural fields decimating crops and risking famine. Locust eats anything from bark to seeds and flowers causing great loss. According to VOA (Voice of America) on AAJ News, it has been reported that if the locusts even decimate 25% of the agricultural crops, Pakistan could lose up to 5 billion rupees in agriculture alone. To solve this unprecedented problem, spraying insecticides through means of aircraft on breeding grounds of the locust has been urgently suggested and implemented. Although it is a long process it must be done on a war footing.</p>
--	--	--	---

Journal Publication 2020

Sr.No.	Journal Publications	Year	Impact Factor
1.	U. Ahmed, M. Ahmed, and Q. Memon, "A modified analytical model for AlGaIn/GaN FinFETs I–V characteristics," Semiconductor Science and Technology, vol. 35, no. 3, p. 035002, 2020.	2020	2.361
2.	S. Shafique, K. S. Karimov, M. Abid, M. M. Ahmed, and K. M. Akhmedov, "Carbon nanotubes, orange dye, and graphene powder based multifunctional temperature, pressure, and displacement sensors," Journal of Materials Science: Materials in Electronics, pp. 1–7, 2020.	2020	2.2
3.	R. Saadia and N. M. Khan, "Single carrier-frequency division multiple access radar: Waveform design and analysis," IEEE Access, vol. 8, pp. 35 742–35 751, 2020.	2020	4.098
4.	M. Kamal Mazhar, M. J. Khan, A. I. Bhatti, and N. Naseer, "A novel roll and pitch estimation approach for a ground vehicle stability improvement using a low cost IMU," Sensors, vol. 20, no. 2, p. 340, 2020.	2020	3.031

5.	A. Hanif, Q. Ahmed, A. Bhatti, and G. Rizzoni, "A unified control framework for traction machine drive using LPV based field-oriented control," <i>Journal of Dynamic Systems, Measurement, and Control</i> , vol. 142, no. 10, 2020.	2020	1.466
6.	S. Ullah, Q. Khan, A. Mehmood, and A. I. Bhatti, "Robust backstepping sliding mode control design for a class of underactuated electromechanical nonlinear systems," <i>Journal of Electrical Engineering & Technology</i> , 2020.	2020	0.715
7.	R. Ara, U. A. Khan, A. I. Bhatti, and B. W. Lee, "A reliable protection scheme for fast dc fault clearance in a VSC-based meshed MTDC grid," <i>IEEE Access</i> , vol. 8, pp. 88 188–88 199, 2020.	2020	4.098
8.	M. F. Iqbal, Z. Khalid, M. Zahid, and A. Abdullah, "Accuracy improvement in amplitude comparison-based passive direction finding systems by adaptive squint selection," <i>IET Radar, Sonar & Navigation</i> , vol. 14, no. 5, pp. 662–668, 2020.	2020	2.015
9.	Z. Masood, R. Samar, and M. A. Z. Raja, "Design of fractional order epidemic model for future generation tiny hardware implants," <i>Future Generation Computer Systems</i> , vol. 106, pp. 43–54, 2020.	2020	5.678
10.	M. Shafiq, I. A. Taj, M. Ghafoor, S. A. Tariq, A. Abbas, and A. Y. Zomaya, "Accelerating fingerprint identification using FPGA for large-scale applications," <i>Journal of Parallel and Distributed Computing</i> , 2020.	2020	1.819
11.	M. Ghafoor, S. A. Tariq, I. Taj, N. Jafri, and T. Zia, "Robust palm print identification using efficient enhancement and two-stage matching technique," <i>IET Image Processing</i> , vol. 14, no. 11, pp. 2333–2342, 2020.	2020	2.004
12.	U. Rafique, M. A. Walha, S. U. Din, and H. Khalil, "Compact CPW-fed super wideband planar elliptical antenna," <i>International Journal of Microwave and Wireless Technologies</i> , 2020.	2020	0.939
13.	N. Zahid, J. Jiang, U. Rafique, and D. Eric, "A modified planar square-loop antenna for electronic article surveillance RFID applications," <i>Journal of Communications Technology and Electronics</i> , 2020.	2020	0.483
14.	M. Tahir, I. A. Taj, P. A. Assuncao, and M. Asif, "Low complexity high efficiency coding of light fields using ensemble classifiers," <i>Journal of Visual Communication and Image Representation</i> , vol. 66, p. 102742, 2020.	2020	2.479
15.	M. Hassan and I. Hassan, "Improving ANN-based streamflow estimation models for the upper indus basin using satellite-derived snow cover area," <i>Acta Geophysica</i> , pp. 1–11, 2020.	2020	1.395
16.	S. Janjua, I. Hassan, M. Zarghami, and S. Islam, "Addressing supply-demand gap in shared rivers using water diplomacy framework: utility of game theory in the indus river within pakistan," <i>Water Policy</i> , 2020.	2020	1.093
17.	S. Janjua, I. Hassan, and S. Islam, "Role and relevance of three enabling conditions to resolve inter-provincial water conflicts in the indus basin within pakistan," <i>Water Policy</i> , 2020.	2020	1.093
18.	S. Janjua and I. Hassan, "Fuzzy AHP-topsis multi-criteria decision analysis applied to the indus reservoir system in pakistan," <i>Water Supply</i> , 2020.	2020	0.90
19.	S. Janjua and I. Hassan, "Transboundary water allocation in critical scarcity conditions: a stochastic bankruptcy approach," <i>Journal of</i>	2020	2.496

	Water Supply: Research and Technology-AQUA, vol. 69, no. 3, pp. 224–237, 2020.		
20.	S. Janjua and I. Hassan, “Use of bankruptcy methods for resolving interprovincial water conflicts over transboundary river: Case study of indus river in pakistan,” River Research and Applications, 2020.	2020	1.954
21.	M. Khan and M. Ali, “Optimization of concrete stiffeners for confined brick masonry structures,” Journal of Building Engineering, p. 101689, 2020.	2020	3.379
22.	S. Ahmed and M. Ali, “Use of agriculture waste as short discrete fibers and glass-fiber- reinforced-polymer rebars in concrete walls for enhancing impact resistance,” Journal of Cleaner Production, p. 122211, 2020.	2020	7.246
23.	M. Khan, M. Cao, and M. Ali, “Cracking behavior and constitutive modelling of hybrid fibre reinforced concrete,” Journal of Building Engineering, vol. 30, p. 101272, 2020.	2020	2.378
24.	M. Khan, A. Rehman, and M. Ali, “Efficiency of silica-fume content in plain and natural fiber reinforced concrete for concrete road,” Construction and Building Materials, vol. 244, p. 118382, 2020.	2020	4.046
25.	R. Sabir, M. M. Khan, N. A. Sheikh, I. U. Ahad, and D. Brabazon, “Assessment of thermo-hydraulic performance of inward dimpled tubes with variation in angular orientations,” Applied Thermal Engineering, vol. 170, p. 115040, 2020.	2020	4.026
26.	L. A. Khan and M. M. Khan, “Role of orientation of fins in performance enhancement of a latent thermal energy storage unit,” Applied Thermal Engineering, p. 115408, 2020.	2020	4.026
27.	M. A. Khan, S. H. I. Jaffery, M. Khan, M. Younas, S. I. Butt, R. Ahmad, and S. S. Warsi, “Multi-objective optimization of turning titanium-based alloy ti-6al-4v under dry, wet, and cryogenic conditions using gray relational analysis (GRA),” The International Journal of Advanced Manufacturing Technology, vol. 106, no. 9-10, pp. 3897–3911, 2020.	2020	2.496
28.	M. W. Ahmed and M. T. Afzal, “Flag-PDFE: Features oriented metadata extraction framework for scientific publications,” IEEE Access, 2020.	2020	4.098
31.	U. A. Chauhan, M. T. Afzal, A. Shahid, M. Abdar, M. E. Basiri, and X. Zhou, “A comprehensive analysis of adverb types for mining user sentiments on amazon product reviews,” World Wide Web, pp. 1–19, 2020.	2020	1.77
32.	N. Ikram, M. Abdul Qadir, and M. T. Afzal, “SimExact – Anefficient method to compute function similarity between proteins using gene ontology,” Current Bioinformatics, vol. 15, no. 4, pp. 318–327, 2020.	2020	1.189
34.	A. A. Toor, M. Usman, F. Younas, A. C. M Fong, S. A. Khan, and S. Fong, “Mining massive e-health data streams for IOMT enabled healthcare systems,” Sensors, vol. 20, no. 7, p. 2131, 2020.	2020	3.031
36.	S. Hussain, Y.-J. Xie, D. Li, S. I. Malik, J.-c. Hou, E. L.-H. Leung, and X.-X. Fan, “Current strategies against covid-19,” Chinese medicine, vol. 15, no. 1, pp. 1–12, 2020.	2020	2.960
37.	M. T. Khan, M. T. Zeb, H. Ahsan, A. Ahmed, A. Ali, K. Akhtar, S. I. Malik, Z. Cui, S. Ali, A. S. Khan et al., “Sars-cov-2 nucleocapsid and nsp3 binding: an in silico study,” Archives of Microbiology, pp. 1–8,	2020	1.884

	2020.		
38.	M. T. Khan, A. C. Kaushik, Q. ul ain Rana, S. I. Malik, A. S. Khan, D.-Q. Wei, W. Sajjad, S. Ahmad, S. Ali, M. Irfan et al., "Characterization and synthetic biology of lipase from bacillus amyloliquefaciens strain," Archives of Microbiology, pp. 1–10, 2020.	2020	1.642
39.	M. T. Khan, S. Ali, M. T. Zeb, A. C. Kaushik, S. I. Malik, and D.-Q. Wei, "Gibbs free energy calculation of mutation in PNCA and RPSA associated with pyrazinamide resistance," Frontiers in Molecular Biosciences, vol. 7, 2020.	2020	3.565
40.	A. Amin, I. Ahmed, N. Khalid, I. U. Khan, A. Ali, S. M. Dahlawi, and W.-J. Li, "Insights on comparative bacterial diversity between different arid zones of cholistan desert, Pakistan," 3 Biotech, vol. 10, no. 5, 2020.	2020	1.786
41.	H. Mehfooz, A. Saeed, M. Faisal, F. A. Larik, U. Muqadar, S. Khatoon, P. A. Channar, H. Ismail, S. Bilquees, S. Rashid et al., "Facile one-pot synthesis, butyrylcholinesterase and α -glucosidase inhibitory activities, structure–activity relationship, molecular docking and DNA–drug binding analysis of Meldrum's acid derivatives," Research on Chemical Intermediates, pp. 1–20, 2020.	2020	2.064
42.	S. Latif, H. Ismail, M. R. Khan, A. A. Rahim, R. Mehboob, E. Dilshad, M. Sajid, S. I. Haider, S. Anwaar, and M. N. Majeed, "Pharmacological evaluation of acacia modesta bark for antipyretic, anti-inflammatory, analgesic, antidepressant and anticoagulant activities in sprague dawley rats." Pakistan Journal of Pharmaceutical Sciences, vol. 33, no. 3, 2020.	2020	0.596
43.	E. Dilshad, H. Ismail, M. A. Khan, R. M. Cusido, and B. Mirza, "Metabolite profiling of artemisia carvifolia buch transgenic plants and estimation of their anticancer and antidiabetic potential," Biocatalysis and Agricultural Biotechnology, vol. 24, p. 101539, 2020.	2020	
44.	T. Zaheer, M. Waseem, W. Waqar, H. A. Dar, M. Shehroz, K. Naz, Z. Ishaq, T. Ahmad, N. Ullah, S. M. Bakhtiar et al., "Anti-covid-19 multi-epitope vaccine designs employing global viral genome sequences," PeerJ, vol. 8, p. e9541, 2020.	2020	2.379
45.	S. Hussain, T. Armaghani, and M. Jamal, "Magneto convection and entropy analysis in t-shaped porous enclosure using finite element method," Journal of Thermophysics and Heat Transfer, vol. 34, no. 1, pp. 203–214, 2020.	2020	1.051
46.	M. Zia and R. Ali, "A multi recipient aggregate signcryption scheme based on elliptic curve," Wireless Personal Communications, pp. 1–16, 2020.	2020	0.929
51.	M. Afzal, J. U. Satti, and R. Nawaz, "Scattering characteristics of non-planar trifurcated waveguides," Meccanica, pp. 1–12, 2020.	2020	2.316
54.	M. Anwar, R. A. Dur-e Shehwar Sagheer, and N. Hussain, "Wardowski type α -f-contractive approach for nonself multivalued mappings," University Politehnica of Bucharest Scientific Bulletin-Series a-applied Mathematics and Physics, vol. 82, no. 1, pp. 69–78, 2020.	2020	0.478
55.	M. H. Khan, A. Fraz, A. Hassan, and P. Abedifar, "Female board representation, risk-taking and performance: Evidence from dual banking systems," Finance Research Letters, p. 101541, 2020.	2020	3.527
57.	H. Raza, "The impact of downside risk on expected return: Evidence from emerging economies hassan raza, arshad hasan and abdul rashid",	2020	

	2020.		
58.	S. Ijaz, A. Hassan, A. Tarazi, and A. Fraz, "Linking bank competition, financial stability, and economic growth," <i>Journal of Business Economics and Management</i> , vol. 21, no. 1, pp. 200–221, 2020.	2020	1.855
59.	H. Raza, A. Hassan, and F. Gul, "Does pakistan stock exchange pay to bet against the beta?" <i>CITY University Research Journal</i> , vol. 10, no. 1, 2020.	2020	
60.	R. M. Yasin, S. Bashir, M. V. Abeele, and J. Bartels, "Supervisor phubbing phenomenon in organizations: Determinants and impacts," <i>International Journal of Business Communication</i> , p. 2329488420907120, 2020.	2020	1.293
61.	S. Azeem, M. A. Zafar, and A. K. Khan, "The grapes are sour: An envier's attributional perspective of coworker impression management," <i>Journal of Management & Organization</i> , pp. 1–17, 2020.	2020	1.021
62.	A. Zahra, A. Zulzar, and S. Aziz, "The effect of atmospheric harmony on re patron- age intentions among small consumers: the mediating role of hedonic value and the moderating role of past experience," <i>Journal of Consumer Marketing</i> , 2020.	2020	
63.	A. Hashmi, S. Ahmed, and I. Hassan, "Optimizing pakistan's water economy using hydro-economic modeling," <i>Journal of Business & Economics</i> , vol. 11, no. 2, pp. 111– 124, 2020.	2020	
64.	S. Ahmed, K. Munir, and H. Nadeem, "Relationship between foreign direct investment & financial market development-evidence from south asian markets", 2020.	2020	
65.	S. Aziz, Z. Afaq, L. Muhammad, and B. Khan, "The role of media, word of mouth, and subjective norms in determining attitude and intentions to purchase family takaful schemes," <i>Journal of Islamic Business and Management</i> , vol. 10, no. 1, pp. 111–131, 2020.	2020	
66.	U. Farooq, J. Ahmed, and S. Khan, "Do the macroeconomic factors influence the firm's investment decisions? a generalized method of moments (GMM) approach," <i>International Journal of Finance & Economics</i> , 2020.	2020	0.943
67.	R. Anwar and J. A. Malik, "When does corporate social responsibility disclosure affect investment efficiency? a new answer to an old question," <i>SAGE Open</i> , vol. 10, no. 2, p. 2158244020931121, 2020.	2020	0.715
68.	R. Anwar and J. Ahmed, "Evaluating the moderating impact of family on the relation- ship between board independence and corporate social responsibility using propensity score matching," <i>South African Journal of Business Management</i> , vol. 51, no. 1, p. 10, 2020.	2020	0.439
69.	J. Khan, M. Jaafar, B. Javed, N. Mubarak, and T. Saudagar, "Does inclusive leadership affect project success? the mediating role of perceived psychological empowerment and psychological safety," <i>International Journal of Managing Projects in Business</i> , 2020.	2020	1.989
70.	M. Khan and N. Aslam, "Perception of god's attributes for mental comfort in stressful life events," <i>Foundation University Journal of Psychology</i> , vol. 4, no. 2, pp. 37–45, 2020.	2020	
71.	M. Khan and S. Zeb, "An adaptive approach towards covid-19: Managing psycho- social crisis," <i>Foundation University Journal of Psychology</i> , vol. 4, no. 2, pp. 11–15, 2020.	2020	
72.	M. Khan and N. Aslam, "Prevalence of caffeine intake among cigarette	2020	

	smokers: Directing caffeine use disorder among pakistani population,” Pakistan Journal of Medical Research, vol. 59, no. 1, pp. 15–21, 2020.		
73.	U. Ullah, H. Badshah, Z. Malik, Z. Uddin, M. Alam, S. Sarwar, A. Aman, A.-u. Khan, and F. A. Shah, “Hepatoprotective effects of melatonin and celecoxib against ethanol- induced hepatotoxicity in rats,” Immunopharmacology and Immunotoxicology, pp. 1–9, 2020.	2020	2.086
74.	A. Khan, Z. Iqbal, S. Nazir, M. Alam, and A. Naz, “Evaluation of emesis control with orally disintegrating tablets and conventional tablets of domperidone: a randomized trial,” LATIN American Journal of Pharmacy, vol. 39, no. 1, pp. 29–37, 2020.	2020	0.290
75.	M. T. Khan, H. Nadeem, A.-u. Khan, M. Abbas, M. Arif, N. S. Malik, Z. Malik, and I. Javed, “Amino acid conjugates of 2-mercaptobenzimidazole provide better anti- inflammatory pharmacology and improved toxicity profile,” Drug Development Research, 2020.	2020	1.902
76.	A. Mohsin Alvi, L. Tariq Al Kury, M. Umar Ijaz, F. Ali Shah, M. Tariq Khan, A. Sadiq Sheikh, H. Nadeem, A.-u. Khan, A. Zeb, and S. Li, “Post-treatment of synthetic polyphenolic 1, 3, 4 oxadiazole compound a3, attenuated ischemic stroke- induced neuroinflammation and neurodegeneration,” Biomolecules, vol. 10, no. 6, p. 816, 2020.	2020	4.694
77.	S. Iqbal, F. A. Shah, K. Naeem, H. Nadeem, S. Sarwar, Z. Ashraf, M. Imran, T. Khan, T. Anwar, and S. Li, “Succinamide derivatives ameliorate neuroinflammation and oxidative stress in scopolamine-induced neurodegeneration,” Biomolecules, vol. 10, no. 3, p. 443, 2020.	2020	4.694
78.	Q. Khalid, M. Ahmad, M. U. Minhas, F. Batool, N. S. Malik, and M. Rehman, “Novel β -cyclodextrin nanosponges by chain growth condensation for solubility enhancement of dexibuprofen: characterization and acute oral toxicity studies,” Journal of Drug Delivery Science and Technology, p. 102089, 2020	2020	2.734
79.	Y. Mehmood, U. Farooq, H. Yousaf, H. Riaz, R. K. Mahmood, A. Nawaz, Z. Abid, M. Gondal, N. S. Malik, K. Barkat et al., “Antiviral activity of green silver nanoparticles produced using aqueous buds extract of Syzygium aromaticum,” Pak. J. Pharm. Sci, vol. 33, no. 2, pp. 839–845, 2020.	2020	0.596
80.	N. S. Malik, M. Ahmad, M. U. Minhas, R. Tulain, I. Khalid, K. Barkat, and A. Rashid, “Toxicological evaluation of xanthan gum based hydrogel formulation in wistar rats using single dose study,” Acta Poloniae Pharmaceutica, vol. 77, no. 2, pp. 353–360, 2020.	2020	0.447
81.	N. S. Malik, M. Ahmad, M. U. Minhas, R. Tulain, K. Barkat, I. Khalid, and Q. Khalid, “Chitosan/xanthan gum based hydrogels as potential carrier for an antiviral drug: Fabrication, characterization, and safety evaluation,” Frontiers in Chemistry, vol. 8, p. 50, 2020.	2020	3.782
82.	N. A. Salam, M. A. Naeem, N. S. Malik, M. Riaz, F. Aslam et al., “Exploring the potential of tianeptine matrix tablets: Synthesis, physicochemical characterization and acute toxicity studies.” Pakistan Journal of Pharmaceutical Sciences, vol. 33, no. 1 (Supplementary), pp. 269–279, 2020.	2020	0.596
83.	N. U. Rehman, M. Abbas, M. Al-Rashida, A. Tokhi, M. A. Arshid, M. S. Khan, I. Ahmad, and K. Rauf, “Effects of 4-fluoro-n-(4-sulfamoylbenzyl) benzene sulfonamide on acquisition and expression	2020	3.216

	of nicotine-induced behavioral sensitization and striatal adenosine levels,” Drug Design, Development and Therapy, vol. 14, p. 3777, 2020.		
84.	N. U. Rehman, K. Esmailpour, S. Joushi, M. Abbas, M. al Rashida, K. Rauf, and Y. Masoumi Ardakani, “Effect of 4-fluoro-n-(4-sulfamoylbenzyl) benzene sulfonamide on cognitive deficits and hippocampal plasticity during nicotine withdrawal in rats,” Biomedicine & Pharmacotherapy, vol. 131, p. 110783, 2020.	2020	4.545
85.	S. Akhtar, M. Abbas, K. Naeem, M. Faheem, H. Nadeem, and A. Mehmood, “Benz- imidazole derivative ameliorates opioid-mediated tolerance during anticancer-induced neuropathic pain in mice,” Anti-cancer agents in medicinal chemistry.	2020	
86.	M. Sona Khan, W. Ternet, N. Xing, B. Sibley, M. Abbas, M. al Rashida, K. Rauf, and C. D. Mandyam, “A novel sulfonamide, 4-fs, reduces ethanol drinking and physical withdrawal associated with ethanol dependence,” International Journal of Molecular Sciences, vol. 21, no. 12, p. 4411, 2020.	2020	4.183
87.	M. Imran, L. T. Al Kury, H. Nadeem, F. A. Shah, M. Abbas, S. Naz, A.-u. Khan, and S. Li, “Benzimidazole containing acetamide derivatives attenuate neuroinflammation and oxidative stress in ethanol-induced neurodegeneration,” Biomolecules, vol. 10, no. 1, p. 108, 2020.	2020	4.694
88.	S. Bashir, A.-u. Khan, M. Mahmood, M. Abbas, S. Akhtar, A. W. Khan, M. T. Aqeel, M. Akhlaq, and H. Ahmad, “Students’ perception of the learning environment in private-sector pharmacy institutes of pakistan,” Pharmacy Education, vol. 20, pp. 191–197, 2020.	2020	
89.	A. H. Palla, A.-u.-H. Gilani, S. Bashir, and N. Ur Rehman, “Multiple mechanisms of flaxseed: Effectiveness in inflammatory bowel disease,” Evidence-Based Complementary and Alternative Medicine, vol. 2020, 2020.	2020	1.813
90.	F. Khurshid, S. Bashir, and B. Noushad, “Prescription writing through the lens of the threshold concept framework: a narrative review,” Res Dev, vol. 9, no. 11, p. 11, 2020.	2020	
91.	B. Nasir, M. W. Baig, M. Majid, S. M. Ali, M. Z. I. Khan, S. T. B. Kazmi, and I.-u. Haq, “Preclinical anticancer studies on the ethyl acetate leaf extracts of datura stramonium and datura inoxia,” BMC Complementary Medicine and Therapies, vol. 20, no. 1, pp. 1–23, 2020.	2020	
92.	M. Kamal Mazhar, M. J. Khan, A. I. Bhatti, and N. Naseer, “A novel roll and pitch estimation approach for a ground vehicle stability improvement using a low cost imu,” Sensors, vol. 20, no. 2, p. 340, 2020.	2020	3.031
93.	S. Ullah, Q. Khan, A. Mehmood, and A. I. Bhatti, “Robust backstepping sliding mode control design for a class of underactuated electro–mechanical nonlinear systems,” Journal of Electrical Engineering & Technology, 2020.	2020	0.715
94.	M. R. Mufti, H. Afzal, F. Ur-Rehman, W. Aslam, and M. I. Qureshi, “Transmission projective synchronization of multiple non-identical coupled chaotic systems using sliding mode control,” IEEE Access, vol. 7, pp. 17 847–17 861, 2020.	2020	4.098
95.	M. Shafiq, I. A. Taj, M. Ghafoor, S. A. Tariq, A. Abbas, and A. Y.	2020	1.1819

	Zomaya, “Accelerating fingerprint identification using fpga for large-scale applications,” Journal of Parallel and Distributed Computing, 2020.		
96.	M. Ghafoor, S. A. Tariq, I. Taj, N. Jafri, and T. Zia, “Robust palmprint identification using efficient enhancement and two-stage matching technique,” IET Image Processing, 2020.	2020	2.004
97.	M. Khan, M. Cao, and M. Ali, “Cracking behaviour and constitutive modelling of hybrid fibre reinforced concrete,” Journal of Building Engineering, vol. 30, p. 101272, 2020.	2020	2.378
98.	M. Khan, A. Rehman, and M. Ali, “Efficiency of silica-fume content in plain and natural fiber reinforced concrete for concrete road,” Construction and Building Materials, vol. 244, p. 118382, 2020.	2020	4.046
99.	N. Ikram, M. Abdul Qadir, and M. T. Afzal, “SimExact – Anefficient method to compute function similarity between proteins using gene ontology,” Current Bioinformatics, vol. 15, no. 4, pp. 318–327, 2020.	2020	1.189
100.	S. Hussain, T. Armaghani, and M. Jamal, “Magnetoeconvection and entropy analysis in t-shaped porous enclosure using finite element method,” Journal of Thermophysics and Heat Transfer, vol. 34, no. 1, pp. 203–214, 2020.	2020	1.051
101.	S. Ahmed, K. Munir, and H. Nadeem, “Relationship between foreign direct investment & financial market development-evidence from south Asian markets.”	2020	