



# Sustainability Report 2023

*Advancing the Sustainable Development Goals*

نہیں کیا امید اقبال اپنی کشتِ ویراں سے  
ذرا نم ہو تو یہ مٹی بہت زرخیز ہے ساقی

**Editors:**

**Dr. Muhammad Bilal Tahir**

**Engr. Dr. Muhammad Mohsin Waqas**

**Engr. Aleena Naqvi**

**Khwaja Fareed University of Engineering  
and Information Technology, Rahim Yar  
Khan, Punjab, Pakistan**

## Executive Summary

This section provides background information about the Khwaja Fareed University of Engineering and Information Technology (KFUEIT) dedication to sustainability and its alignment with the SDGs. It emphasizes the importance of the SDGs in the university's mission and values. Additionally, it offers a description of the reporting period and the scope of the report. The university's sustainability governance structure and integration of the SDGs are presented in this section. It outlines the roles and responsibilities of key personnel and committees related to the SDGs. Furthermore, it highlights the integration of the SDGs into the university's strategic planning and decision-making processes. The university's strategies and initiatives related to environmental stewardship are discussed. It covers energy consumption reduction strategies, water conservation and management practices, waste reduction, recycling, and circular economy initiatives, as well as biodiversity preservation and restoration efforts. The university's actions to address climate change are detailed in this section. It includes tracking and reduction strategies for greenhouse gas emissions, climate adaptation and resilience measures, promotion of sustainable transportation options, and initiatives to raise awareness about climate change and promote behavior change. This section highlights the university's initiatives related to social responsibility. It encompasses diversity, equity, and inclusion initiatives, community engagement and partnerships, social impact programs, and volunteering opportunities, as well as student and faculty well-being initiatives. The university's focus on economic sustainability is addressed in this section. It covers sustainable procurement practices, responsible investment and divestment strategies, cost savings and economic benefits from sustainability initiatives, and contributions to local and regional economic development. This section explores how the university integrates the SDGs into its education and research programs. It discusses the integration of the SDGs into the curriculum, research projects and initiatives addressing sustainability challenges, student and faculty engagement in sustainability-focused activities, and collaboration with other institutions and organizations for SDG implementation. Key performance indicators used to measure sustainability progress aligned with each SDG are presented in this section. It includes data and metrics related to energy consumption, emissions, waste, social impact, and more. A comparison of current performance with previous years and SDG targets is also provided. The university's long-term sustainability vision and goals aligned with each SDG are outlined in this section. It discusses strategies and action plans for achieving future sustainability targets and highlights opportunities for innovation and collaboration to enhance SDG implementation. The conclusion section recaps the university's achievements and challenges in contributing to each SDG. It reaffirms the university's commitment to sustainable development and all SDGs. A call to action is made for all stakeholders to support the university's SD.



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**UEIT**  
RAHIM YAR KHAN



## Message from the Vice Chancellor



I am honored to present you as the Vice Chancellor of Khwaja Fared University of Engineering and Information Technology (KFUEIT) and share our commitment to sustainability and the Sustainable Development Goals (SDGs). At KFUEIT, we recognize the critical role that sustainability plays in shaping the future of our society and the world. We firmly believe that by integrating sustainable practices into every aspect of our institution, we can create a positive impact on the environment, society, and economy. I am proud to highlight the key sustainability initiatives that we have undertaken across our university, aligned with each SDG. In our pursuit of SDG 7, we have implemented energy consumption reduction strategies, utilized renewable energy sources, and optimized our energy infrastructure. Our efforts in SDG 6 have resulted in effective water conservation and management practices, ensuring the responsible use of this precious resource. Under SDG 12, we have implemented waste reduction, recycling, and circular economy initiatives, fostered a culture of responsible resource utilization and minimized our ecological footprint. Moreover, our commitment to SDG 15 drives our efforts in biodiversity preservation and restoration, as we actively work towards preserving the natural habitats and ecosystems within our campus. Recognizing the urgency of SDG 13, we have established greenhouse gas emissions tracking mechanisms, adopted climate adaptation and resilience measures, and promoted sustainable transportation options. Additionally, we aim to raise awareness about climate change and promote behavior change among our students, faculty, and the wider community.

KFUEIT is dedicated to upholding the principles of SDG 5 and SDG 10. We have implemented diversity, equity, and inclusion initiatives to create an inclusive and welcoming environment for all. Through community engagement and partnerships (SDG 17), we actively collaborate with local organizations and stakeholders to address societal challenges and foster sustainable development. Our university places a strong emphasis on SDG 1 and SDG 4. We have developed social impact programs and volunteering opportunities to contribute to poverty eradication and provide quality education to underprivileged communities. Additionally, we prioritize student and faculty well-being (SDG 3) through various initiatives promoting physical and mental wellness. Economic sustainability is integral to our vision, as evident in our sustainable procurement practices (SDG 12), responsible investment and divestment strategies, and our contributions to local and regional economic development (SDG 9). We strive to create a robust and sustainable economy that benefits both our university and the communities we serve. I invite all our stakeholders to join hands with KFUEIT in supporting our SDG initiatives. Together, we can create a sustainable future, where innovation, education, and responsible practices drive positive change. Let us commit ourselves to building a society that is equitable, resilient, and environmentally conscious.

**Prof. Dr. Muhammad Suleman Tahir**  
Vice Chancellor  
Khwaja Fared University of Engineering  
and Information Technology

## Message from the Director of Quality Enhancement Cell (QEC)

I am pleased to convey my message as the Director of the Quality Enhancement Cell (QEC) regarding the significance of sustainability and the Sustainable Development Goals (SDGs) in our ongoing quality enhancement efforts. At KFUEIT, we firmly believe that sustainability is a crucial aspect of our pursuit of academic excellence and continuous improvement. The integration of sustainability principles into our institutional practices not only ensures responsible resource management but also aligns with our commitment to social and environmental responsibility. The QEC plays a pivotal role in promoting sustainability initiatives related to each SDG throughout our university. We work closely with faculty, staff, and students to enhance their understanding of the importance of sustainability and empower them to contribute to sustainable development. It is with great pride that I acknowledge the achievements we have made thus far. Our collective efforts have resulted in significant progress across various SDGs. We have successfully implemented energy-saving measures in line with SDG 7. Additionally, our water conservation and management practices, aligned with SDG 6 have positively impacted our water consumption patterns. Our commitment to responsible consumption and production (SDG 12) is evident in our waste reduction, recycling, and circular economy initiatives, which have fostered a culture of sustainability on campus. Furthermore, we have actively engaged in biodiversity preservation and restoration efforts, recognizing the importance of SDG 15. In line with SDG 13, we have initiated projects to track and reduce greenhouse gas emissions, promoting climate adaptation and resilience measures. Through awareness campaigns and educational programs, planting more than 50000 trees, we have also successfully promoted sustainable transportation options and fostered a culture of climate-conscious behavior. Our dedication to fostering an inclusive and equitable environment (SDG 5: and SDG 10) has driven our efforts to implement diversity and inclusion initiatives, ensuring equal opportunities for all members of our community. Through partnerships and collaborations (SDG 17), we have extended our reach to address broader societal challenges, making a tangible impact on the communities we serve. While we celebrate these accomplishments, we also acknowledge the need for continued progress. In the coming years, the QEC will actively work towards further integrating sustainability into our institutional fabric. We will develop comprehensive action plans to address each SDG and enhance our performance indicators to measure our progress effectively.

**Dr. Muhammad Bilal Tahir**

Director of Quality Enhancement Cell (QEC)

Khwaja Fared University of Engineering and Information Technology, Rahim Yar Khan



## Meet the Team



Dr. Muhammad Bilal Tahir  
*Director*



Engr. Dr. Muhammad Umer  
Farooq  
*Additional Director*



Engr. Dr. M. Mohsin  
Waqas  
*Additional Director*



Engr. Dr. Umair Azhar  
*Additional Director*



Dr. Rifat Jaweria  
*Additional Director QEC*



Dr. Shazia Andaleeb  
*Deputy Director*



Muhammad Afzal  
*Deputy Director*



Engr. Aleena Naqvi  
*Assistant Director*



Muhammad Bilal Wali  
*Teaching Assistant*



Dilshad Ahmed Shad  
*Office Assistant*



Aslam Sabir  
*Junior Clerk*



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# KFUEIT

## Flagship Projects and Events

02 DAYS INTERNATIONAL CONFERENCE ON  
**SUSTAINABLE DEVELOPMENT GOALS**

Segment 1: Climate Action (SDG 13 - Climate Action)  
**THEME: CLIMATE CHANGE MITIGATION AND ADAPTATION**

July 12–13, 2023

Quality Enhancement Cell

Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan

02 DAYS INTERNATIONAL CONFERENCE ON  
**SUSTAINABLE DEVELOPMENT GOALS**

Segment 2: Affordable and Clean Energy (SDG 7 - Affordable and Clean Energy)  
**THEME: SUSTAINABLE ENERGY SOLUTIONS**

July 12–13, 2023

Quality Enhancement Cell

Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan



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02 DAYS INTERNATIONAL CONFERENCE ON  
**SUSTAINABLE DEVELOPMENT GOALS**

Quality Enhancement Cell

Segment 3: Clean Water and Sanitation (SDG 6 - Clean Water and Sanitation)  
**THEME: WATER RESOURCE MANAGEMENT**

July 12-13, 2023

Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan

02 DAYS INTERNATIONAL CONFERENCE ON  
**SUSTAINABLE DEVELOPMENT GOALS**

Quality Enhancement Cell

Segment 4: Industry, Innovation, and Infrastructure (SDG 9 - Industry, Innovation, and Infrastructure)  
**THEME: GREEN TECHNOLOGIES AND INNOVATIONS**

July 12-13, 2023

Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan





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02 DAYS INTERNATIONAL CONFERENCE ON  
**SUSTAINABLE DEVELOPMENT GOALS**

Segment 5: Life on Land (SDG 15 - Life on Land)  
**THEME: BIODIVERSITY CONSERVATION**

July 12-13, 2023

Quality Enhancement Cell

Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan

02 DAYS INTERNATIONAL CONFERENCE ON  
**SUSTAINABLE DEVELOPMENT GOALS**

Segment 6: Responsible Consumption and Production (SDG 12 - Responsible Consumption and Production)  
**THEME: ENVIRONMENTAL POLICY AND GOVERNANCE**

July 12-13, 2023

Quality Enhancement Cell

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**SUSTAINABLE DEVELOPMENT GOALS**



**Segment 7: Sustainable Cities and Communities (SDG 11 - Sustainable Cities and Communities)**  
**THEME: SUSTAINABLE URBAN PLANNING**

 July 12–13, 2023

Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan



02 DAYS INTERNATIONAL CONFERENCE ON  
**SUSTAINABLE DEVELOPMENT GOALS**



**Segment 8: Quality Education (SDG 4) and Partnerships for the Goals (SDG 17)**  
**THEME: EDUCATION FOR SUSTAINABLE DEVELOPMENT**

 July 12–13, 2023

Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan



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# KFUEIT

Two Days International Conference

**Sustainable Development  
Goals 2023**

July 12-13, 2023



Quality  
Enhancement  
Cell



## KFUEIT PRODUCTS



Bio Fertilizer





## Groundwater Irrigation Advisory

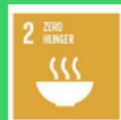


Groundwater is the most important and significant contribution in the food security through the contribution in the No Poverty, Zero Hunger, and Clean Water and Sanitation. KFUEIT is working on the groundwater irrigation advisory services to the farmers to improve the efficiency of the groundwater utilization and its sustainability.

Groundwater Contributes more than 50% in the agriculture production through the unrestricted use. KFUEIT is working on the farmers trainings and advisory services through the smartphone based application.

The sustainability of the aquifer is compulsory for the food security and achieving the goals of No poverty, Zero Hunger and Clean water availability for a longer period of time. Sustainable aquifer is the sustainability of the life.

## Precision Surface Irrigation



The project aims to sustainably manage the water-energy and climate interlinkages in South Asia through the promotion of solar irrigation pumps (SIPs). This research focused on the precision surface irrigation and study results revealed that more than 90% irrigation efficiency can be achieved in surface irrigation by grading the land. Therefore, significant potential in precision surface irrigation can save huge amount of water and for better crop yields.

Groundwater Contributes more than 50% in the agriculture production through the unrestricted use. KFUEIT is working on the farmers trainings and advisory services through the smartphone based application.

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## No-Tillage and Inter-Cropping



Climate Change has drastic impacts on soil health and crop productivity, especially in the arid areas under water scarcity. In this regards, the innovate approach to mitigate the climate change impact to ensure the food security through resources conservation techniques. An innovative farming technology have been introduced as "NO-Tillage Cotton-Mung bean Intercropping under straw mulching" as an effective way to reduce evaporation losses and improve soil health and crop productivity.

Food security is directly coupled with the precise agronomic and mechanized practices in the era of swift increasing population. m more crop per area is the need of the time.



The sustainability of the agriculture system requires higher cropping intensity and eventually the food security is possible through the innovative approaches in agriculture.

## Biofertilizer Impact on Cereal Crops



Successful research trials on Rice crop as collaborate project between Khwaja Fareed University of Engineering and Information Technology Rahim Yar Khan, Punjab, Pakistan and NONGFENJI INFORMATION TECHNOLOGY CO, LTD, Nanjing, PR, China. New tech. Biofertilizers were tested to increase the overall yield of the important cereal crops (Wheat, Rice, Maize) with sustainable agriculture theme.

Food security is directly coupled with the precise agronomic and improved agricultural practices in the era of swift increasing population.



The sustainability of the agriculture system requires higher innovative and sustainable solution to ensure the food security.



## Women Garden Tree Plantation Drive



Gardening is the most important components to ensure the food security, KFUEIT took the initiative of women garden to trigger the interest of women's in gardening that will eventually contributes towards the food security. It will help to improve the gender equality in the field of agriculture.

Womens empowerment is compulsory to improve the life style of any family espically where womens ratio is more 50% in the population.



The sustainability of o the society and ensure the zero hunger, no poverty requires the women empowerment in the field of agriculture.

## High Efficiency Irrigation System



High efficiency irrigation system adoptability is the need of the time. KFUEIT started the irrigation of about 200 acres with the Pressurised irrigation system. rain gun is most efficient irrigation system with the efficiency of 90% .

Groundwater Contributes more than 50% in the agriculture production through the unrestricted use. KFUEIT is working on the farmers trainings and advisory services through the smartphone based application.



The sustainability of the aquifer is compulsory for the food security and achieving the goals of No poverty, Zero Hunger and Clean water availability for a longer period of time. Sustainable aquifer is the sustainability of the life.



## Preface

We are pleased to present the sustainability report of Khwaja Fareed University of Engineering and Information Technology (KFUEIT). This report reflects our ongoing commitment to sustainable development and our efforts to contribute to a more resilient and equitable future. At KFUEIT, we recognize the importance of addressing pressing global challenges, such as climate change, resource depletion, and social inequalities. Our preface sets the stage for this report by acknowledging the significance of sustainability and the Sustainable Development Goals (SDGs) as guiding principles for our institution. In this report, we provide a comprehensive overview of our sustainability initiatives, progress, and future goals. By aligning our practices with the SDGs, we aim to make a positive impact on our campus, local community, and beyond. This report showcases our achievements and highlights the challenges we face, demonstrating our commitment to transparency and accountability. The preface section of the report offers an opportunity to express our gratitude to the diverse stakeholders who have supported our sustainability journey. We extend our appreciation to our dedicated faculty, staff, and students who have contributed their knowledge, skills, and passion to drive sustainability efforts at KFUEIT. We also acknowledge the valuable partnerships we have forged with local organizations, government entities, and community members who share our vision of a sustainable future. As we present this report, we encourage readers to engage with the information, reflect on our progress, and explore opportunities for collaboration. Sustainable development is a collective endeavor, and we believe that by working together, we can create lasting change. We invite you to delve into the pages of this report, which provide insights into our environmental stewardship, climate action, social responsibility, economic sustainability, education, and research efforts. Through our dedication to sustainable practices and our integration of the SDGs, we are committed to leaving a positive legacy for future generations.

**Engr. Dr. Muhammad Mohsin Waqas**

Additional Director QEC

Khwaja Fareed University of Engineering and Information Technology (KFUEIT)



## Introduction

In today's ever-changing world, the concept of sustainability has emerged as a paramount force driving organizations, including educational institutes, towards a more responsible and environmentally conscious future. Sustainability, in its essence, refers to the ability to meet the needs of the present generation without compromising the ability of future generations to meet their own needs. It entails a delicate balance between environmental, social, and economic considerations, with a focus on promoting long-term viability and resilience.

The importance of sustainability cannot be overstated, particularly in the context of educational institutions. Universities and colleges play a pivotal role in shaping the minds of future leaders, researchers, and policymakers. By incorporating sustainable practices into their operations, curricula, and overall ethos, these institutes have the potential to instill in their students a deep understanding of environmental stewardship and social responsibility.

The impact of sustainability initiatives within educational institutions reaches far beyond their campuses. As centers of knowledge and innovation, universities can be instrumental in developing and disseminating sustainable technologies, policies, and practices that positively influence their communities and beyond. By championing sustainability, institutes set a powerful example for other organizations to follow, driving broader societal change towards a greener and more equitable world.

In the context of global efforts, sustainability in educational institutions aligns closely with the United Nations Sustainable Development Goals (SDGs). The SDGs, a set of 17 interconnected objectives, provide a comprehensive framework for addressing some of the world's most pressing challenges, including poverty, climate change, inequality, and environmental degradation. By embracing sustainability, universities contribute directly to multiple SDGs, including those related to quality education (SDG 4), sustainable cities and communities (SDG 11), and climate action (SDG 13), among others.

In this report, we delve into the sustainability initiatives undertaken by Khwaja Fareed University of Engineering and Information Technology (KFUEIT), Rahim Yar Khan, Pakistan, exploring the strategies, achievements, and future goals of the institute in its journey towards becoming a paragon of sustainable practices. By examining the various facets of KFUEIT's sustainability efforts, we aim to shed light on the significance of sustainability in the context of educational institutions and its potential to drive positive change on a global scale.





## 8-FACULTIES, 13-INSTITUTES AND 11-DEPARTMENTS:



### 1. Faculty of Electrical & Computer Engineering

- ⦿ Department of Electrical and Biomedical Engineering
- ⦿ Institute of Computer and Software Engineering

### 2. Faculty of Chemical, Civil & Environmental Engineering

- ⦿ Institute of Chemical and Environmental Engineering
- ⦿ Department of Civil Engineering

### 3. Faculty of Mechanical and Agriculture Engineering

- ⦿ Department Agricultural Engineering
- ⦿ Institute of Mechanical and Manufacturing Engineering

### 4. Faculty of Information Technology

- ⦿ Institute of Computer Science
- ⦿ Institute of Information Technology
- ⦿ Department of Data Science and Artificial Intelligence
- ⦿ Department of Cyber Security

### 5. Faculty of Administrative & Management Sciences

- ⦿ Institute of Business Administration
- ⦿ Department of Accounting and Finance

### 6. Faculty of Natural and Applied Sciences

- ⦿ Institute of Physics
- ⦿ Institute of Mathematics
- ⦿ Institute of Chemistry
- ⦿ Institute of Biological Sciences
- ⦿ Department of Life Sciences

### 7. Faculty of Food, Health Science & Technology

- ⦿ Institute of Food Science and Technology
- ⦿ Institute of Health Sciences
- ⦿ Department of Nursing
- ⦿ Department of Pharmacy

### 8. Faculty Humanities and Social Sciences

- ⦿ Department of Education
- ⦿ Department of Law
- ⦿ Institute of Humanities and Arts

## Research Centers



1. Centre of Artificial Intelligence and Cyber Security
2. Centre for Innovative Material Research
3. Centre for Electronics and Robotics
4. Centre for Theoretical and Computational Research
5. Centre for Executive Training and Development
6. Centre for Water, Land and Ecosystem
7. Centre of Sufism
8. Centre for Thermal and Renewable Energy Research
9. Centre for Medical Services
10. Health Safety & Environment Centre
11. Centre for Basic Education
12. University Services Centre



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# Governance and Leadership





## **Governance and Leadership**

Effective governance and leadership are pivotal in driving sustainability initiatives within educational institutions. As universities embrace their roles as agents of change and knowledge dissemination, their capacity to address pressing global challenges, such as environmental degradation and social inequality, relies significantly on well-structured governance frameworks and visionary leadership. By aligning their objectives with the United Nations Sustainable Development Goals (SDGs), universities can harness their influence and expertise to create meaningful impacts, not only within their campuses but also in the broader world. In this section of the report, we explore Khwaja Fareed University of Engineering and Information Technology (KFUEIT) sustainability governance structure, the integration of SDGs into decision-making processes, and the roles of key personnel and committees responsible for spearheading sustainable practices. By examining these critical aspects, we aim to understand how KFUEIT is actively advancing sustainability at the core of its operations and leadership, setting an inspiring precedent for other educational institutions to follow suit.





## Academic Excellence Award

*Great nations* are made with the grandeur of personal endeavors and lifelong dedicated services of exemplary figures of society.

One such esteemed person we have found in you whose vision, commitment, and untiring contribution towards quality education has uplifted the image of the country among world nations. I deeply regard and extend this certificate of appreciation to

**Prof. Dr. Muhammad Suleman Tahir**

VC - Khwaja Fareed University of Engineering & Information Technology- Rahim Yar Khan

for your phenomenal services to the education sector of Pakistan.

Prof. Dr. Chaudhry Abdul Rehman  
Chairman - APSUP

AUGUST 17, 2022

Date





## Establishment of Student Facilitation Center



## Campus Life, Happenings





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 Prof. Dr. Muhammad Suleman Tahir  
Vice Chancellor KFUEIT


**Workshop on**  
**IMPACT OF INSTITUTIONAL PERFORMANCE EVALUATION**  
**STANDARDS TO ENHANCE QUALITY ASSURANCE**

June 26, 2023 || 12:00pm  
Electrical Auditorium

**ORGANIZED BY: QUALITY ENHANCEMENT CELL**  
Khwaja Fared University of Engineering and Information Technology

This workshop, organized by QEC, aims to foster a deeper understanding of the crucial role of performance evaluation standards in promoting and maintaining high-quality educational institutions. In today's rapidly evolving educational landscape, ensuring the consistent delivery of high-quality education has become more important than ever. Institutional performance evaluation standards play a pivotal role in this regard by providing a framework to assess and enhance various aspects of an educational institution's functioning.

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 Prof. Dr. Muhammad Suleman Tahir  
Vice Chancellor KFUEIT

**Webinar on**  
**Framework for Internal Quality**  
**Assurance of HEIs**

26-06-2023 || 09:00am

**Organized by:**  
**Quality Enhancement Cell**

Khwaja Fared University of Engineering and Information Technology



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This webinar aims to shed light on the essential framework for Internal Quality Assurance (IQA) within HEIs. By adopting an effective IQA framework, HEIs can ensure that their academic programs, faculty, and support services are aligned with the highest standards, fostering a conducive environment for students' holistic development.

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**KHWAJA FAREED UNIVERSITY OF ENGINEERING & INFORMATION TECHNOLOGY**

**Prof. Dr. Muhammad Suleman Tahir**  
Vice Chancellor KFUEIT

**WEBINAR ON**

## **QUALITY EDUCATION TOOLS**

June 24, 2023 || 02:30pm

**ORGANIZED BY:**  
**QUALITY ENHANCEMENT CELL**

**Khwaja Fareed University of Engineering and Information Technology**

As the world evolves rapidly, the significance of providing high-quality education becomes increasingly evident. This webinar seeks to empower educators, administrators, and stakeholders with a comprehensive understanding of cutting-edge tools and technologies that can elevate the educational landscape, creating enriched learning environments and fostering students' holistic growth.

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**KHWAJA FAREED UNIVERSITY OF ENGINEERING & INFORMATION TECHNOLOGY**

**Prof. Dr. Muhammad Suleman Tahir**  
Vice Chancellor KFUEIT

**Webinar on**

## **Quality Education for Special Persons**

24-06-2023 || 09:00am

**Organized by:**  
**Quality Enhancement Cell**

**Khwaja Fareed University of Engineering and Information Technology**





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# Governance and Leadership

A key principle of quality education for special persons is the recognition of diversity and the acknowledgment that each learner has unique strengths and challenges. This approach emphasizes individualized learning plans, specialized instructional techniques, and appropriate assistive technologies to cater to diverse learning styles and abilities.

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 Prof. Dr. Muhammad Suleman Tahir  
Vice Chancellor KFUEIT

## One Day Workshop on ROLE OF ACADEMIC AUDITORS IN EDUCATIONAL INSTITUTES.

June 24, 2023 || 11:00am  
Electrical Auditorium

**ORGANIZED BY: QUALITY ENHANCEMENT CELL**

**Khwaja Fared University of Engineering and Information Technology**

This workshop aims to provide participants with a comprehensive understanding of the role and significance of academic auditors in educational institutes. As the educational landscape continues to evolve, academic auditors play a pivotal role in upholding and enhancing the standards of academic excellence and institutional integrity.



The poster features the KFUEIT logo in the top left and a portrait of Prof. Dr. Muhammad Suleman Tahir, Vice Chancellor, in the top right. The background shows a stylized building facade. The text is centered and reads: 'WEBINAR ON THE MISSING LINKS OF QUALITY ASSURANCE' in red and blue. Below this, a green box contains the date and time: 'June 23, 2023 || 02:30pm'. Further down, it says 'ORGANIZED BY: QUALITY ENHANCEMENT CELL' in blue. At the bottom, a dark blue banner contains the text 'Khwaja Fareed University of Engineering and Information Technology' in white.

Throughout the webinar, we identified and discussed several essential missing links in the quality assurance process that can significantly impact an institution's ability to provide excellence in education. Such as Stakeholder Engagement, Continuous Professional Development, Alignment with Learning Outcomes, Ethical and Inclusive Practices, Recognition of Non-Formal and Informal Learning etc.

The poster features the KFUEIT logo in the top left and a portrait of Prof. Dr. Muhammad Suleman Tahir, Vice Chancellor, in the top right. The background shows a stylized building facade. The text is centered and reads: 'WEBINAR ON IMPACT OF QUALITY ASSESSMENT ON ORGANIZATIONAL TRANSFORMATION IN HIGHER EDUCATION' in black. Below this, a pink box contains the date and time: 'June 23, 2023 || 04:00pm' and 'Electrical Auditorium'. Further down, it says 'ORGANIZED BY: QUALITY ENHANCEMENT CELL' in blue. At the bottom, a dark blue banner contains the text 'Khwaja Fareed University of Engineering and Information Technology' in white.

The webinar emphasized that quality assessment is not merely a compliance exercise but a powerful tool for organizational transformation in higher education. By embracing a culture of continuous improvement and leveraging data-driven insights, educational institutes can create a positive impact on their students, faculty, and the broader community.



### Successful IT Seminar Empowers Professionals and Ignites Innovation:

The recently conducted IT seminar organized by the Institute of Information Technology proved to be a resounding success, drawing a diverse group of professionals and enthusiasts from the technology industry. The event, held at ICT Building on 22nd June 2023, featured a range of insightful presentations, and opportunities that left participants inspired and equipped with cutting-edge knowledge. The seminar, “Unlocking Python’s Potential”, aimed to address the latest trends and advancements in the IT field while providing a platform for collaboration and knowledge exchange. With a focus on topics such as artificial intelligence, cloud computing, and data analytics, the event attracted a wide range of attendees, including faculty members and students. One of the highlights of the seminar was the lineup of esteemed speakers who shared their expertise and experiences with the audience. Their expertise and thought-provoking discussions served as a catalyst for innovation and sparked engaging conversations among participants.



**ONE DAY ONLINE WORKSHOP ON OUTCOME BASED EDUCATION**

June 23, 2023 || 09:30am

**ORGANIZED BY:  
QUALITY ENHANCEMENT CELL**

**Khwaja Fareed University of Engineering and Information Technology**

Prof. Dr. Muhammad Suleman Tahir  
Vice Chancellor KFUEIT

The Outcome-Based Education (OBE) webinar provided an enriching and comprehensive exploration of this transformative educational approach. Facilitated by experts in educational pedagogy and attended by educators, administrators, and stakeholders, the webinar aimed to deepen participants' understanding of OBE and its profound impact on the teaching and learning process. The webinar commenced with an introduction to the core principles of Outcome-Based Education, emphasizing its learner-centric nature. Participants learned that OBE focuses on defining clear, measurable learning outcomes that students should achieve by the end of their educational journey, enabling a more purposeful and targeted approach to instruction.



Views of Mr. William K. Makaneole, the Consul General of the United States, about Khwaja Fareed University of Engineering & Information Technology and worthy vice Chancellor Prof. Dr. Suleman Tahir during the “Empowering Minorities Youth Through Educational Awareness” seminar. (Video link: <https://fb.watch/1-dkvyDKZv/>)

On June 21, 2023, Mr. William K. Makaneole, the Consul General of the United States, planted a tree in the presence of Prof. Dr. Suleman Tahir. This act symbolized a meaningful step towards environmental sustainability and highlighted the importance of preserving nature for future generations. As the Consul General, Mr. Makaneole demonstrated his commitment to promoting green initiatives and fostering a sense of environmental responsibility. The tree planting ceremony served as a powerful reminder that each individual, regardless of their position, has a role to play in protecting our planet. It is hoped that this gesture will inspire others to follow suit and contribute towards creating a greener and more sustainable world.



KFUEIT was honored to host Mr. William K. Makaneole, the Consul General of the United States, on 21-06-2023. Mr. Makaneole visited KFUEIT to engage with students and faculty members and contributed to an important seminar on empowering minority youth through educational awareness. KFUEIT, known for its commitment to excellence in education and fostering inclusivity, was delighted to welcome Mr. Makaneole as the esteemed chief guest for the seminar. His visit highlighted the significance of educational empowerment and the role it plays in fostering social cohesion and equal opportunities for minority communities.

During his visit, Mr. Makaneole interacted with worthy Vice Chancellor Prof. Dr. Muhammad Suleman Tahir, students, faculty, and staff members, exchanging valuable insights and experiences. He expressed his admiration for KFUEIT's dedication to promoting diversity and providing quality education to students from all backgrounds.

The seminar on "Empowering Minorities Youth Through Educational Awareness" served as a platform for meaningful discussions and sharing of best practices in promoting inclusive education. Eminent speakers and experts from various fields addressed the audience, shedding light on the importance of equal access to education, scholarships, and mentorship opportunities for minority youth. The event aimed to inspire and empower students, providing them with the tools and knowledge necessary to excel in their educational pursuits and contribute to society positively.



The 1st National Universities Joint Conference 2023 was held on 15th June 2023 at Al-Razi Hall, Center for Undergraduate Studies, University of the Punjab, Quaid-e-Azam Campus, Lahore. The title of the conference was “Sustainable Indigenous Production & Upcycling of Polymers/Allied Materials (SIP-UP): Future Challenges”. Chairman of the Punjab Higher Education Commission Dr. Shahid Munir honored the conference as a chief guest of the event. KFUEIT participated as patron and conference partner. Worthy Vice Chancellor Prof. Dr. Suleman Tahir expressed his thoughts online, while Engr. Dr. Rana Mujahid attended this conference on behalf of KFUEIT. In addition, KFUEIT was awarded the 3rd cash prize in poster competition, in which more than 60 posters were exhibited by different universities of Pakistan.



Chaudhary Zaka Ashraf, the renowned Businessperson and former chairman of the Pakistan Cricket Board (PCB), paid a visit to Khwaja Fareed University of Engineering and Information Technology (KFUEIT). Ch. Zaka Ashraf appreciated KFUEIT's impressive track record in Research, Quality Education, Sports, and other education-friendly activities. The Vice Chancellor of KFUEIT, Prof. Dr. M. Suleman Tahir, warmly welcomed the honorable guest. They engaged in a stimulating conversation, discussing the university's achievements and future aspirations. Zaka Ashraf was impressed by the comprehensive research facilities, state-of-the-art laboratories, and the dedication of the faculty members. The Vice Chancellor proudly shared the accomplishments of KFUEIT, highlighting the numerous research projects and academic breakthroughs that had placed the university on the map. As Ch. Zaka Ashraf toured the campus, he admired the vibrant student life and the commitment to extracurricular activities. He was particularly pleased to see the university's focus on holistic development, nurturing not only academic excellence but also fostering well-rounded individuals who would contribute positively to society. After a fulfilling day at KFUEIT, Zaka Ashraf left the campus with a sense of admiration and inspiration. He was impressed by the university's commitment to research, quality education, sports, and the overall development of its students. Zaka Ashraf recognized KFUEIT as a beacon of hope, paving the way for future generations of scholars and leaders.



**Webinar** **LIVE**

## Exploring Beyond the Books: Unleashing Internship Opportunities for Future Physicists

**Date: June 16, 2023**   **Venue: Civil Auditorium**   **Time: 10:00 am**

Organized by: Institute of Physics

**Khwaja Fareed University of Engineering and Information Technology**

The webinar "Exploring Beyond the Books: Unleashing Internship Opportunities for Future Physicists" provided an insightful exploration of the vital role internships play in shaping the careers of aspiring physicists. The webinar, attended by students, educators, and professionals in the physics community, focused on the transformative impact of real-world experiences and practical learning beyond the traditional classroom setting.

**Webinar** **LIVE**

## Unveiling Horizons: Empowering BS Physics Students in the Quest for Internship Excellence

**Date: June 15, 2023**   **Venue: Civil Auditorium**   **Time: 12:00 pm**

Organized by: Institute of Physics


**Khwaja Fareed University of Engineering and Information Technology**

The webinar provided a compelling and informative session for undergraduate physics students seeking to enhance their internship experiences. The webinar began with an introduction to the transformative potential of internships in complementing academic learning and preparing students for successful careers in physics. Speakers emphasized the significance of internships in bridging the gap between theory and practice, fostering crucial skills and competencies, and building valuable professional networks.


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**Webinar**  **LIVE**

## Physics Pathfinders: Navigating Your Career Journey After Graduation



Guest Speaker  
**Dr. Kamran Amin**  
 Special Research Assistant  
 CAS Key laboratory for nanosystems & hierarchical fabrication  
 National Center for Nanoscience and Technology

Date: June 16, 2023

Venue: Civil Auditorium

Time: 11:00 am

Organized by: Institute of Physics

Khwaja Fareed University of Engineering and Information Technology

The webinar provided valuable insights and guidance to recent physics graduates embarking on their professional journeys. The webinar commenced with an overview of the diverse career opportunities available to physics graduates beyond academia. Renowned physics professionals shared their personal career journeys, highlighting the multitude of paths one can take in various sectors, including research, industry, technology, finance, and entrepreneurship.



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 & INFORMATION TECHNOLOGY



**Prof. Dr. Muhammad Suleman Tahir**  
 Vice Chancellor KFUEIT

## Seminar on 5th Generation Warfare, Role and Responsibility of Youth

BBC Documentary "The Modi Question" will also be played

Speaker  
**Saeed Ullah Mughal**  
 HoD Law Department

Speaker  
**Muhammad Anwar Farooq**  
 Coordinator IH&A

Date: May 30, 2023

Venue: Civil Building Auditorium

Time: 10:00 am

Organized by: KFUEIT CSS Club, DSA and IH&A

Khwaja Fareed University of Engineering and Information Technology

The webinar provided an insightful exploration of the evolving nature of warfare and the crucial role young individuals play in navigating and countering its challenges. Throughout the event, speakers emphasized the pivotal role of youth in confronting the multifaceted challenges posed by 5th Generation Warfare. As digital natives, young individuals are uniquely positioned to understand and adapt to the rapidly changing landscape of modern conflicts, making their engagement and leadership vital in countering misinformation, disinformation, and propaganda.


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 Prof. Dr. Muhammad Suleman Tahir  
 Vice Chancellor KFUEIT

Webinar on 

## COMMUNICATION SKILLS


Guest Speaker  
**Ms. Nadia Munawar**  
 Section Head  
 Army Public School RYK


Date: May 06, 2023      Time: 12:00 pm

Organized by: Institute of Humanities and Arts

**Khwaja Fareed University of Engineering and Information Technology**

The Communication Skills webinar provided participants with valuable insights and practical tips to enhance their abilities to communicate effectively and confidently in various settings. The webinar commenced with an introduction to the significance of communication skills in today's interconnected world. Speakers emphasized how effective communication is a critical factor in building successful relationships, fostering collaboration, and achieving career success.


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Webinar on 

## WOMEN EMPOWERMENT

Guest Speaker  
**Dr. Asma Rani**  
 Chairperson Urdu Dept  
 Sadiq Women University  
 Bahawalpur

Guest Speaker  
**Dr. Shahida Rasool**  
 Assistant Professor Urdu Dept  
 Women University  
 Multan

Date: May 03, 2023      Time: 10:00 am - 12:00 pm

Organized by: Institute of Humanities and Arts

**Khwaja Fareed University of Engineering and Information Technology**

The Women Empowerment webinar served as an inspiring and informative platform for participants to delve into the challenges, opportunities, and strategies for empowering women in various spheres of life. Attended by advocates, policymakers, educators, and women from diverse backgrounds, the webinar aimed to foster meaningful discussions and actions that promote gender equality and women's empowerment.



# Environmental Stewardship



**6** CLEAN WATER AND SANITATION



**7** AFFORDABLE AND CLEAN ENERGY



**12** RESPONSIBLE CONSUMPTION AND PRODUCTION



**15** LIFE ON LAND





## **Environmental Stewardship**

Environmental stewardship lies at the heart of Khwaja Fareed University of Engineering and Information Technology (KFUEIT) commitment to sustainability. As an institution of higher learning, KFUEIT recognizes the critical role it plays in safeguarding the environment and contributing to a greener and more sustainable future. Through strategic and innovative approaches, KFUEIT actively addresses various facets of environmental conservation and sustainability, aligning its efforts with several United Nations Sustainable Development Goals (SDGs). This section of the report delves into KFUEIT comprehensive environmental stewardship initiatives, including strategies to reduce energy consumption, conserve water resources, adopt circular economy practices, and preserve biodiversity. By examining the institution's efforts in these crucial areas, we gain insights into how KFUEIT is effectively contributing to SDG 7 (Affordable and Clean Energy), SDG 6 (Clean Water and Sanitation), SDG 12 (Responsible Consumption and Production), and SDG 15 (Life on Land). Together, these efforts underscore KFUEIT dedication to sustainability and its role as a responsible global citizen working towards a more harmonious coexistence with the planet.



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# Environmental Stewardship

The poster features a background of green leaves and a central image of a building facade. At the top, it displays the logos of Khwaja Fareed University of Engineering & Information Technology (KFUEIT) and UI GreenMetric World University Rankings. The main title is 'International Symposium on CLIMATE CHANGE AND SUSTAINABILITY'. Below the title, it states the event is organized by KFUEIT in collaboration with UI GreenMetric. A central box lists six speakers with their names, titles, and affiliations. At the bottom, it provides the date (June 05, 2023) and time (11:00 am), and identifies the organizing body as the Quality Enhancement Cell at KFUEIT.

**International Symposium on  
CLIMATE CHANGE AND SUSTAINABILITY**

**Khwaja Fareed University of Engineering & Information Technology, Pakistan**  
In Collaboration with  
**UI GreenMetric World University Rankings**

 <b>Patron in Chief</b> Prof. Dr. M. Suleman Tahir Vice Chancellor KFUEIT	 <b>Patron in Chief</b> Prof. Dr. Ir. Riri Fitri Sari Chairperson UI GreenMetric
 <b>Plenary Speaker</b> Dr. Nyoman Suwartha Vice-Chair of Administration, Research & Development UI Greenmetric World University Rankings	 <b>Keynote Speaker</b> Dr. Mazhar Sher Assistant Professor South Dakota State University
 <b>Keynote Speaker</b> Dr. Abdul-Sattar Nizami Sustainable Development Study Centre Government College University, Lahore	 <b>Keynote Speaker</b> Dr. Adnan Arshad Director: Climate-Smart Agriculture Education Program (PODA-Pakistan)

**Date: June 05, 2023**      **Time: 11:00 am**

**Organized by: Quality Enhancement Cell**  
Khwaja Fareed University of Engineering and Information Technology

On the momentous occasion of World Environment Day, we are thrilled to announce the International Symposium on Climate Change and Sustainability, in collaboration with the prestigious UI Greenmetric ranking! Join us on June 05, 2023, at 11:00 am PST as we come together to explore innovative approaches for addressing climate change and building a sustainable future.



The Department of Life Sciences organized a seminar and awareness walk at the Civil Auditorium of KFUEIT to commemorate the International Day for Biological Diversity. The purpose of the event was to raise awareness about the importance of biodiversity conservation and engage the community in discussions and actions to protect and preserve our natural ecosystems. The seminar consisted of informative presentations covering various topics related to biodiversity. After that an awareness walk was also organized to promote biodiversity conservation.



# Environmental Stewardship



Quality Enhancement Cell Khwaja Fareed UEIT organized an awareness activity on Bike-to-Work Day. By choosing eco-friendly transportation, we contribute to a cleaner environment and reduce carbon footprint.





The successful completion of the Workshop on Solar System Design and Installation (18-05-2023) organized by the Department of Electrical and Biomedical Engineering at Khwaja Fareed University of Engineering & Information Technology. A group of passionate students, professionals, and solar enthusiasts gathered to delve into the fascinating world of solar technology. The workshop proved to be an enlightening experience filled with valuable insights and practical demonstrations. Participants were immersed in a comprehensive curriculum that covered various aspects of solar system design, critical calculations, and real-world applications. The hands-on approach enabled everyone to grasp the intricacies of system design and learn effective troubleshooting techniques for maximum efficiency. The workshop also shed light on the entrepreneurial dimension of solar systems. The IEEE-KFU society team showcased local market analysis, emphasizing the potential business opportunities in the renewable energy sector. This insightful session provided participants with a broader perspective on the commercial viability of solar technology.



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# Environmental Stewardship

**Speaker :**  
**Engr. Dr. Naveed Anjum**  
HOD, Civil Engineering Department, KFUEIT

**Prof. Dr. Suleman Tahir |**  
Vice Chancellor | KFUEIT |  
Patron Inchief |

**AWARENESS SESSION ON :**  
**" FLOOD DISASTER RISK REDUCTION "**

May 04-2023 3:00 PM - 5:00 PM

**VENUE :** Zoom

Organized By :  
Department of Civil Engineering & KFSC

@Khwaja Fareed Society of Civil Engineer's

The Awareness Session on Flood Disaster Risk Reduction served as a crucial platform for participants to understand the significance of proactive measures in mitigating the devastating impacts of floods. Attended by community members, government officials, NGOs, and disaster management experts, the session aimed to raise awareness, educate, and empower individuals and communities to effectively respond to flood-related emergencies. The session commenced with an overview of the increasing frequency and intensity of floods due to climate change and urbanization. Speakers highlighted the far-reaching consequences of floods on lives, livelihoods, infrastructure, and the environment, underlining the urgent need for comprehensive flood disaster risk reduction strategies. Throughout the event, participants were introduced to various flood disaster risk reduction approaches and best practices. These included early warning systems, flood mapping, emergency preparedness plans, evacuation procedures, and community-based resilience building initiatives.



Khwaja Fareed University of Engineering & Information Technology with the collaboration of the International Water Management Institute (IWMI) and International Food Policy Research Institute (IFPRI) organized an International Stakeholder Consultation workshop on pathways for Solar Irrigation in Punjab. Director, Natural Resources & Resilience, IFPRI Dr. Claudia Ringler was the chief guest of the ceremony while Country Representative of Pakistan, Regional Representative Central Asia Dr. Mohsin Hafeez was the guest speaker. At the beginning of the ceremony, Vice Chancellor Prof. Dr. Suleman Tahir welcomed the guests and said that KFUEIT is working on environment-friendly projects on a priority basis. In this regard, they are working together with domestic and foreign institutions to propose solutions to the problems faced by the region and to facilitate the journey of regional prosperity. During the workshop, speakers said that solar irrigation is the use of solar energy to power irrigation systems. It has become increasingly important due to the need for sustainable agricultural practices and the rising demand for food in the world. Solar energy is renewable, clean, and sustainable. It does not produce harmful emissions or pollutants, making it an environmentally friendly alternative to fossil fuels. They said that with the increasing demand for food, it is important to ensure that crops are grown efficiently and sustainably. Solar irrigation can help ensure that crops are watered regularly and consistently, leading to improved food security. The speakers also shared their experiences in different parts of the world and answered the questions of the participants.



A seminar was conducted “What dead animals creating hazard in our environment if not buried or dispose off” on 3rd December 2021. The purpose of this seminar was to aware that Dead animals are threat to public health because of intolerable odors and the potential spread of disease such as Salmonellosis, Campylobacter, Clostridium and other zoonotic diseases. And how we can control it.

**WHAT DEAD ANIMALS  
CREATING HAZARDS IN OUR  
ENVIRONMENT IF NOT  
BURRIED OR DISPOSED OFF**

ANIMAL REMOVER CAN PROVIDE THE  
SAFE, FAST AND EFFICIENT DEAD  
ANIMAL REMOVAL YOU NEED TO GET RID  
OF THAT DEAD ANIMAL CARCASS AND  
KEEP YOUR FAMILY OUT OF HARM'S WAY.

DEAD ANIMAL CARCASSES CAN  
CARRY SEVERAL DISEASES  
THAT ARE DETHIMENTAL  
OR EVEN DEADLY FOR HUMANS  
OR DOMESTIC ANIMALS.

**REAL LIFE EXAMPLES**  
LEPTOSPIROSIS IS DISEASE THAT CAN BE CONTRACTED BY HUMANS  
THROUGH THE HANDLING OF AN INFECTED DEAD ANIMAL INCLUDING HIGH  
FEVER, BLEEDING, MUSCLE PAIN AND VOMITING

**KFUEIT BIODIVERSITY CONSERVATION SOCIETY  
(KBCS)**  
**Directorate of Student Affairs**  
KHWAJA FAREED UNIVERSITY OF ENGINEERING & INFORMATION  
TECHNOLOGY RAHIM YAR KHAN



KFUEIT's "Keep KFUEIT Clean" initiative instills a sense of environmental stewardship, inspiring students and staff to maintain a litter-free and sustainable campus. By organizing regular cleanup activities, KFUEIT fosters a community-driven approach towards creating a greener and healthier university environment. The "Keep KFUEIT Clean" program empowers individuals to take small actions that collectively make a significant difference, promoting a cleaner and more eco-conscious campus for all.



# Environmental Stewardship



KFUEIT's Plantation Drive is a dedicated effort to enhance the greenery and biodiversity of the campus, aiming to create a more sustainable and aesthetically pleasing environment. Through the Plantation Drive, students, faculty, and staff actively participate in planting trees and maintaining green spaces, fostering a sense of ecological responsibility and climate consciousness. The initiative not only contributes to the mitigation of environmental challenges but also provides a peaceful and refreshing atmosphere for all members of the university community to enjoy and appreciate.



# Climate Action



**11** SUSTAINABLE CITIES  
AND COMMUNITIES



**13** CLIMATE  
ACTION





## Climate Action

In the face of an ever-worsening climate crisis, Khwaja Fareed University of Engineering and Information Technology (KFUEIT) stands resolute in its commitment to driving meaningful climate action and promoting sustainable communities. Recognizing the urgency to address the adverse impacts of climate change, KFUEIT has taken proactive measures to track, reduce, and offset greenhouse gas emissions, aligning its efforts with the United Nations Sustainable Development Goal 13 (SDG 13): Climate Action. Through an integrated approach that combines emission reduction strategies and adaptation measures, KFUEIT aims to bolster its resilience and play a leading role in mitigating climate change.

From implementing energy-efficient practices and investing in renewable energy sources to adopting climate-resilient infrastructure and policies, KFUEIT actively embraces a sustainable future while prioritizing SDG 13 objectives. Moreover, the university champions sustainable transportation options, promoting eco-friendly alternatives to reduce the carbon footprint of its community and contribute to SDG 11: Sustainable Cities and Communities.

Beyond internal initiatives, KFUEIT recognizes the power of education and awareness in driving global climate action. The university engages its students, faculty, staff, and surrounding communities in various climate change awareness programs and behavior change campaigns, in line with SDG 13. By fostering a culture of environmental responsibility, KFUEIT empowers its stakeholders to become climate advocates and catalysts for change.

In this section of the report, we explore KFUEIT's comprehensive efforts in climate action and promoting sustainable communities, delving into greenhouse gas emission tracking and reduction strategies, climate resilience measures, sustainable transportation initiatives, and awareness-raising campaigns. Through these impactful endeavors, KFUEIT exemplifies its dedication to combatting climate change and underscores its position as a leading institution in driving positive environmental transformation aligned with SDG 13..



## Installation of Wastewater Treatment Plant

The university has established Wastewater Treatment Plant to treat the university sewage water. The primary objective of this project is to design an onsite wastewater treatment plant for the University that would serve as a more sustainable and cost-efficient method of treatment. The sewage is properly cycled for the further use. The recycled wastewater main utilization is for the irrigation purpose to the lawns of KFUEIT and research trials on the agriculture research farm. This recycled water is also used for toilet, car wash purpose and other purpose.



## Operation of Wastewater Treatment Plant through Solar Energy

The wastewater treatment plant is operated through the solar energy which will reduce the impact on conventional energy sources and our climate.



## Solar Sheds

The Walking Solar Shed at our university combines renewable energy and practicality, installing solar panels along the walking track to provide both shade and generate clean electricity. This innovative initiative ensures students benefit from renewable energy while staying comfortable during hot weather, exemplifying our commitment to sustainability and student well-being.

Walking Solar Shed



## Renewable Energy



### Treatment of Organic Waste

Organic waste is collected from all around the university. This waste is used in a number of recycling methods including bio-gas, compost making, and clean combustion etc. the details are presented below



### Biogas Plant



Biogas plants play a pivotal role in sustainability by converting organic waste into renewable energy (biogas) and nutrient-rich biofertilizers through anaerobic digestion. This process reduces reliance on fossil fuels, mitigates greenhouse gas emissions, fosters sustainable agriculture, and promotes a greener and more sustainable future.

## **BURNING OF THE SMOKE FREE, CLEAN BIOMASS IN THE INDIGENOUSLY DEVELOPED STOVES**



The burning of smoke-free, clean biomass in indigenously developed stoves represents a crucial step towards sustainable energy solutions. These innovative stoves are designed to efficiently burn biomass, such as wood, crop residues, and biogas, while minimizing harmful emissions and smoke. By doing so, they not only improve indoor air quality, reducing health risks for those exposed to traditional cooking methods, but also contribute to mitigating the negative impact of biomass combustion on the environment. The use of these stoves promotes sustainable cooking practices, conserves natural resources, and helps combat climate change. Furthermore, their indigenous development fosters local innovation and empowers communities to embrace eco-friendly technologies tailored to their specific needs, ensuring a cleaner and healthier future for all.

## **Biodiesel Production and Testing**



Biodiesel production and testing play a vital role in advancing sustainable energy alternatives. Biodiesel is derived from renewable sources such as vegetable oils and animal fats, making it a greener and more environmentally friendly option compared to conventional fossil fuels. The production process involves transesterification, which converts these feedstocks into biodiesel, reducing greenhouse gas emissions and dependence on non-renewable resources. Rigorous testing ensures the quality and performance of biodiesel, meeting industry standards and guaranteeing compatibility with existing diesel engines. By fostering the development and implementation of biodiesel, we pave the way for a cleaner and more sustainable energy landscape, contributing to reduced carbon footprints and a greener future.



## Organic Compost for growing plants

Organic compost serves as a cornerstone for sustainable and thriving plant growth. Comprised of decomposed organic matter such as kitchen scraps, yard trimmings, and agricultural waste, compost enriches soil with essential nutrients, improves its structure, and enhances water retention capacity. As a natural fertilizer, it promotes healthy microbial activity in the soil, suppressing plant diseases and pests without harmful chemical inputs. By recycling organic waste into nutrient-rich compost, we reduce landfill burden, close the organic loop, and contribute to a more circular economy. Embracing organic composting not only fosters sustainable agriculture but also supports biodiversity and ecosystem health, ensuring a harmonious coexistence with the environment while nurturing robust and abundant plant growth.



## Inorganic Waste Treatment

### Waste plastic being washed and prepared for product making

The inorganic waste is extensively treated and recycled. Different type of waste is separated and recycled accordingly. For example, the plastic bottles are collected, washed, cut and made into useful products. Containers produced from waste plastics offer a promising solution to the environmental challenges posed by plastic waste. By recycling and repurposing discarded plastics, these containers help reduce the accumulation of plastic in landfills and oceans, curbing pollution and its detrimental impact on wildlife and ecosystems. This sustainable approach also conserves valuable resources and lowers the carbon footprint associated with traditional plastic production. Furthermore, the use of waste plastics in container manufacturing promotes awareness about recycling and encourages a circular economy mindset, where materials are reused to create functional products, contributing to a cleaner and more eco-conscious future.





## Toxic Waste Handling

The toxic waste is collected separately and dealt with precaution. Different types of wastes are properly labeled and instructions for students and staff are communicated via lecture and posters. The toxic waste is handled by a certified third party (shaikh zayed hospital). This is the only certified company operating in the area





## Program to Reduce the Use of Paper and Plastic in Campus

The KFUEIT has taken many initiatives to reduce the use of paper and plastics in campus. For instance, the employees' data is kept online via MIS tool developed by the KFUEIT. It provided wide range of services online to eliminate the need of paper; including complete record of the employee, leave application process, apply for NOC etc. The Case management system is developed to address various issues and problems via online, which eliminates the need for written application to be submitted. The Learning management system (LMS) is indigenously developed by KFUEIT to facilitate the learning experience of students as well as reduce the need of paper and printing. If absolutely necessary, the papers are printed but it is ensured that they are printed on both sides as a policy. Use of plastics for the paper binding, reports cover, and single-use plastics are highly discouraged. A series of seminars and trainings are conducted for efficient usage of resources and to reduce various types of wastes throughout the year.

Following are few projects secured and events organized regarding waste minimization and reduce the need for paper and plastic usage.

1. <https://www.facebook.com/kfueit.official/photos/pcb.1953412864817513/1953412801484186/>
2. <https://www.facebook.com/kfueit.official/photos/pcb.1953360178156115/1953360068156126>

The screenshot shows the KFUEIT MIS Dashboard. The top navigation bar includes 'KFUEIT MIS', a search icon, and a 'Sign out' button for user 'tamer.farooq'. The left sidebar lists various system modules. The main dashboard area is titled 'Dashboard Control panel' and contains two primary sections: 'Useful Links' and 'Leaves Quick Actions'. The 'Useful Links' section displays six interactive buttons: 'Case Dashboard (10)', 'Initiate Case', 'Manage Overtime Slots', 'My Attendance', 'View Profile', and 'Leave Ledger'. Below this, there is a 'Survey' button. The 'Leaves Quick Actions' section displays three buttons: 'Initiate a Request', 'View Approved Requests', and 'View Pending Requests'.

Management Information System



# Climate Action

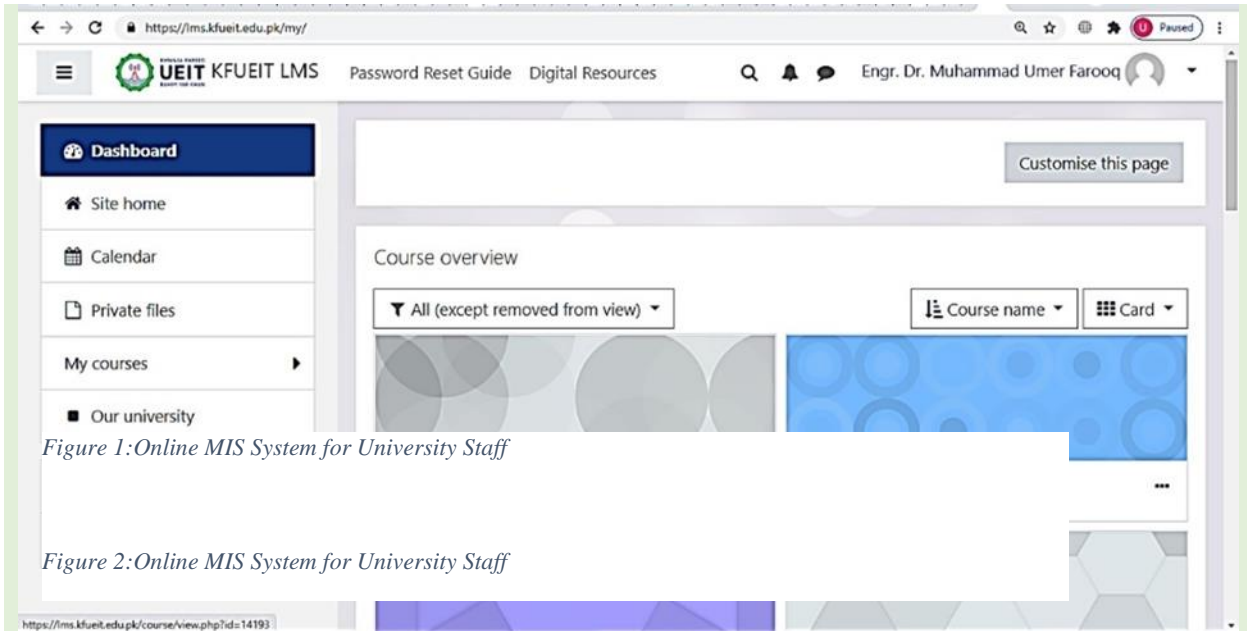
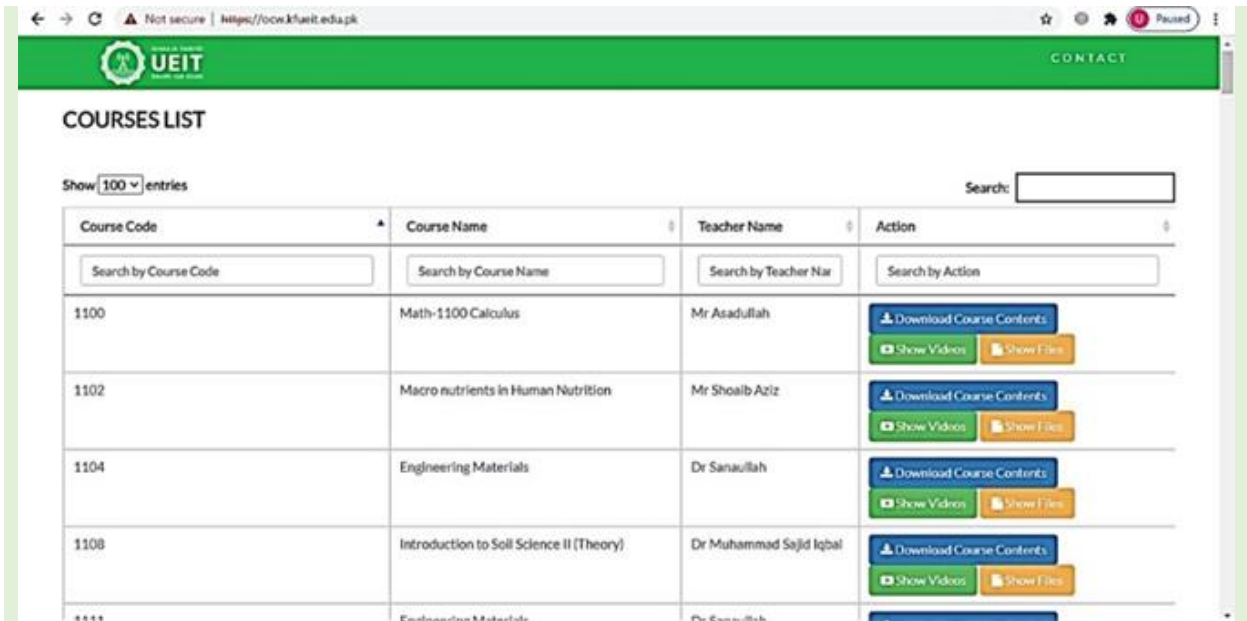


Figure 1: Online MIS System for University Staff

Figure 2: Online MIS System for University Staff

Online LMS System for Faculty and Students



KFUEIT Open Course Ware for the Students





# Climate Action

Initiated Cases (Completed)

Serial No.	Title	Initiated By	To Department	Date	Barcode	Status	Track	Action
1	Urgent Maintenance of Mechanical Building for PEC Accreditation Visit	Muhammad Irfan	Project Department	2019-04-30	9145547915	Completed	View Detail	Reopen/Feedback
2	Creation of Sections on CBA	Muhammad Sajad	IT Department	2019-05-22	0038254963	Completed	View Detail	Reopen/Feedback
3	Nomination of MIS coordinator of Transport Department	Yasir Yasir	IT Department	2019-05-17	6215861347	Completed	View Detail	Reopen/Feedback
4	Nomination of MIS coordinator of Transport Department	Yasir Yasir	IT Department	2019-05-17	1030576285	Completed	View Detail	Reopen/Feedback
5	Payment for Fuel Bills for the month of May-2019	Yasir Yasir	Finance Department	2019-05-24	1900152082	Completed	View Detail	Reopen/Feedback
6	Creation of Courses on CBA	Muhammad Sajad	IT Department	2019-05-26	8161089496	Completed	View Detail	Reopen/Feedback
7	Request for Salary Slip for May & June 2019	Muhammad Sajad	Finance Department	2019-05-26	9503924149	Completed	View Detail	Reopen/Feedback

Online Case Management System for the Faculty and Staff

Manage Academic Session

Year: 2021  
Semester Title: Fall

Course Allocation Summary Report | Search (Courses) | Import Courses (XLSX)

Selections: select all | unselect all | locked

Delete | Manage Course | Update File Status

Select	Course Title	Course Code	Associated Sections	Teachers	In Lab	Credit Hours	Ns. of Students Enrolled	Enrollment Privileges	Award List Status
<input type="checkbox"/>	Workshop Practice	MEEN-1212	1. BS-CHEN-1	1. Engr. Muhammad Kashif Asif	Yes	1	50	Chemical Engineering	Not Submitted
<input type="checkbox"/>	Engineering Materials	MEEN-1194	1. BS-CHEN-5	1. Engr. Dr. Tausif Ahmad	No	2	40	Chemical Engineering	Not Submitted
<input type="checkbox"/>	Numerical Methods for Engine	MEEN-3134	1. BS-CHEN-5	1. Engr. Dr. Aamir Akbar Din	No	3	40	Chemical Engineering	Not Submitted
<input type="checkbox"/>	Numerical Methods for Engine	MEEN-3234	1. BS-CHEN-5	1. Engr. Dr. Aamir Akbar Din	Yes	1	40	Chemical Engineering	Not Submitted
<input type="checkbox"/>	Internal Combustion Engines	MEEN-4147	1. BS-MEEN-7	1. Engr. Haseeb Yaqoob	No	2	31		Not Submitted
<input type="checkbox"/>	Internal Combustion Engines I	MEEN-4247	1. BS-MEEN-7	1. Engr. Yasir Hussain Siddiqui	Yes	1	31		Not Submitted
<input type="checkbox"/>	Refrigeration & Air Conditioning	MEEN-4148	1. BS-MEEN-7	1. Engr. Ghias Mahmood Khan	No	3	31		Not Submitted
<input type="checkbox"/>	Refrigeration & Air Conditioning	MEEN-4248	1. BS-MEEN-7	1. Engr. Muhammad Usman Musthafa	Yes	1	31		Not Submitted
<input type="checkbox"/>	Mechanical Vibrations	MEEN-4149	1. BS-MEEN-7	1. Engr. Usman Munir	No	3	31		Not Submitted
<input type="checkbox"/>	Mechanical Vibrations Lab	MEEN-4249	1. BS-MEEN-7	1. Engr. Muhammad Basit Shafiq	Yes	1	31		Not Submitted
<input type="checkbox"/>	Precision Engineering II Metro	MEEN-3137	1. BS-MEEN-5A	1. Engr. Syed Muhammad Hamid	No	2	35		Not Submitted
<input type="checkbox"/>	Precision Engineering II Metro	MEEN-3237	1. BS-MEEN-5A	1. Engr. Waqas Tabir	Yes	1	35		Not Submitted
<input type="checkbox"/>	Machine Design II CAD-I	MEEN-3129	1. BS-MEEN-5A	1. Engr. Hamid Khalid	No	3	35		Not Submitted

CBA system for complete examination data, enrollment, teacher allocation



# Climate Action

## Implementation of Water Conservation Program

KFUEIT has implemented several water conservation initiatives to address seepage losses and promote efficient irrigation practices. Firstly, cemented-based water channel lining reduces water wastage by providing a defined pathway for water to reach its destination, minimizing losses. Secondly, Precision Surface Irrigation employs a high-efficiency system based on simulation modeling, ensuring water is applied accurately according to the field's slope, maintained through laser grading during cultivation. Thirdly, on-farm water storage in the Ground Water Tank enables water conservation during excessive availability, ensuring a stable supply during canal water closure or peak demand. Additionally, rain harvesting systems, automatic on/off taps, moveable rain gun systems, and tensiometer installations further optimize irrigation, allowing for demand-based water application and better crop production. These initiatives collectively contribute to sustainable water management and environmental stewardship at KFUEIT.



Cemented Water Channels



Precision Surface Irrigation at Agriculture Research Farm of the KFUEIT



# Climate Action

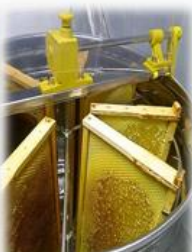


Automatic on/off taps as a policy to replace manual taps (left), Rainwater Harvesting System (Right)

## KFUEIT PRODUCTS



Bio Fertilizer





# Climate Action

## Development of Solar Assisted Dryer

A solar assisted dryer was fabricated by Engr. Dr. Kamran Ikram in the department of agricultural engineering. The dryer was operated on solar energy decreasing application of fossil fuels for heating of drying air. A Solar concentrator is under construction. The purpose of concentrator is to get heat energy for farm operations and for distillation process.



## Commercialization of Organic Moringa Powdered

Organic Moringa leaf powder products which is developed organically, no synthetic chemical fertilizer and pesticides used during its production. Which is environment friendly and have no side effect.



KHWAJA FAREED  
**UEIT**  
RAHIM YAR KHAN



# Organic Moringa Leaf Powder

Prepared By: **Dr. Muhammad Adnan Bodlah**  
Assistant Professor, Department of Agricultural Engineering

Khwaja Fared University of Engineering and Information Technology, Rahim Yar Khan



# Climate Action

## BRASSINOLIDE (BIOFERTILIZER) IMPACTS ON THE YIELD PARAMETER OF CEREAL CROPS

A collaborative project of KFUEIT and Nongfenji Information Technology (Jiangsu) Co, Ltd, Nanjing, China. Environment friendly Biofertilizers are tested to increase overall crop yield of cereal crops including rice, wheat and maize.



## Electrical Bikes and Bicycles Distribution

Electrical bikes and bicycles have been distributed among the staff members of KFUEIT to reduce the consumption of fossil-based fuels and subsequent emissions to the environment. The details are depicted in the following pictures:





## IMPORTANCE OF TREES FOR THE COMMUNITY



The Civil Engineering Department & KFSCE organized an awareness walk focused on highlighting the importance of trees for the community. The event aimed to raise awareness about the significant role that trees play in our environment and society. The Head of Department, Society Advisor, Faculty members, and Students actively participated in this event for the green cause.



# Climate Action

## Clean and Green Campus



## 50000+ Tree Plantation - Clean and Green Campus





# Climate Action

## Clean and Green Campus



## Clean and Green Campus







# Climate Action

## Clean and Green Campus



## Clean and Green Campus





# Climate Action

## Clean and Green Campus



## Clean and Green Campus





# Climate Action

## Clean and Green Campus





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RAHIM YAR KHAN

# Climate Action





# Social Responsibility



**1** NO POVERTY



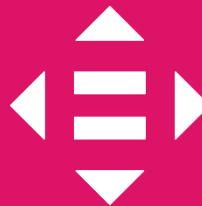
**3** GOOD HEALTH AND WELL-BEING



**5** GENDER EQUALITY



**10** REDUCED INEQUALITIES



**17** PARTNERSHIPS FOR THE GOALS





## Social Responsibility

At Khwaja Fared University of Engineering and Information Technology (KFUEIT), social responsibility lies at the very core of its mission to create a vibrant and inclusive academic community. Embracing the values of diversity, equity, and inclusion, the university actively promotes a culture of mutual respect and support, aligning its efforts with the United Nations Sustainable Development Goals (SDGs) 5 and 10: Gender Equality and Reduced Inequalities, respectively. By cultivating an environment that celebrates individual differences and fosters equal opportunities, KFUEIT endeavors to be a model institution for promoting social cohesion and progress.

With a steadfast commitment to address societal challenges, KFUEIT engages with surrounding communities through meaningful partnerships, reflecting the principles of SDG 17: Partnerships for the Goals. Through these collaborations, the university leverages its resources and expertise to address local issues, empowering and uplifting the lives of those it serves.

Beyond academics, KFUEIT places significant emphasis on social impact programs and volunteering opportunities, contributing directly to SDGs 1 (No Poverty) and 4 (Quality Education). By involving students and faculty in outreach initiatives, the university fosters a sense of responsibility and empathy, nurturing socially conscious graduates who are poised to make a positive difference in the world.

Moreover, KFUEIT prioritizes the well-being of its students and faculty, recognizing that a healthy and supportive environment is essential for academic and personal growth. Emphasizing initiatives aligned with SDG 3 (Good Health and Well-being), the university provides comprehensive support services and resources to ensure the mental, physical, and emotional welfare of its academic community.

In this section of the report, we delve into KFUEIT comprehensive approach to social responsibility, exploring its diversity and inclusion initiatives, community engagement and partnerships, social impact programs, volunteering opportunities, and student and faculty well-being initiatives. By examining the university's dedication to promoting social progress and inclusivity, we gain insight into how KFUEIT is actively fostering a compassionate and equitable environment, aligning its practices with key SDGs to effect meaningful change both within and beyond its campus walls.



## Community Service



### Cholistan Water Campaign

2022



### Ramzan Dastarkhwan

2023



### Flood Areas Activities



- KFUEIT's Cholistan Water Campaign provides vital water resources to families and animals in the Cholistan desert during periods of scarcity, safeguarding them from potential famine and promoting sustainable water management practices to ensure a brighter future for the region.
- KFUEIT's Ramadan Dastarkhwan is a community-driven initiative that extends food provisions to the deprived during the holy month of Ramadan, ensuring everyone has access to a fulfilling meal to break their fast. Open to all, this program embodies the spirit of compassion and inclusivity, fostering a sense of unity and support within the community.
- KFUEIT's Flood Relief Program demonstrates its commitment to humanitarian aid by providing essential support to flood-affected communities. Through the distribution of ration, medicine, and medical camps, the university addresses immediate needs while also contributing to long-term sustainability by introducing "Aab Fareed," a KFUEIT water brand, ensuring access to safe drinking water for those in need.



# Social Responsibility



KFUEIT organized a Poetry Symposium, where talented poets gathered to share their artistic creations, enchanting the audience with verses that resonated with emotions and creativity. The event celebrated the richness of poetry and provided a platform for the poetic community to express their thoughts and feelings through the beauty of words.





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# Social Responsibility



On the occasion of the International Day for the Fight against Illegal, Unreported and Unregulated (IUU) Fishing, Department of Life Sciences & Quality Enhancement Cell, KFUEIT organized an inspiring awareness walk to highlight the importance of combating this pressing global issue. Students and faculty members came together to participate in this meaningful event. The awareness walks at KFUEIT served as a powerful reminder of the urgent need for collaborative efforts to combat IUU fishing and safeguard our oceans for future generations.



Honorable Governor/ Chancellor Mian Baleegh u Rehman visited the stall of Khwaja Fareed University of Engineering & Information Technology during the Kisan Mela at Qasim Bagh stadium Multan. He appreciated the efforts of Team KFUEIT under the supervision of Worthy Vice Chancellor Prof. Dr. Suleman Tahir. He also presented a shield to the team KFUEIT.



KHWAJA FAREED

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# Social Responsibility



On the instructions of worthy vice chancellor Prof. Dr. Suleman Tahir a Blood donation camp was organized at KFUEIT by blood donation society DSA and institute of health sciences in collaboration with regional blood center Government of Punjab where staff and students of KFUEIT donated blood for thalassemia patients. "Proud to be someone's life line" was the take home message. We will keep contributing to save lives said the advisor Dr Ahmad Bilal Arif. He extended gratitude to all the organizers and donors who contributed to this noble cause by donating blood.



Khwaja Fareed University of Engineering & Information Technology in collaboration with National Productivity Organization (NPO) organized an awareness session and walk on May 15, 2023 from Civil Engineering Building to Vice Chancellor office and distribute booklets and the participants. Worthy Vice Chancellor Prof. Dr. Suleman Tahir also graced the event and participated in awareness walk. He said that Sustainable national productivity is the cornerstone of economic development and progress for any nation. It encompasses the efficient utilization of resources, balanced economic growth, and the well-being of both present and future generations. By focusing on sustainable productivity, nations can achieve long-term prosperity while preserving the environment, promoting social equity, and ensuring economic stability. He also appreciates the organizers and participants.



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RAHIM YAR KHAN

# Social Responsibility

**HOSTING COMPETITION AND SEMINAR  
ON WOMEN'S EMPOWERMENT IN ISLAM**

**Team A**  
Lead by **Abdul Mujeeb**

**Team B**  
Lead by **Muniba Shafeeq**

**Judges**

**Dr Mazhar Hussain Bhadru**  
Advisor, KEPSES

**Faizan Ul Hassan**  
President of KEPSES

**Muneeb Ullah**  
President of KETS

**M. Ahsan Khalid**  
Vice President of KEPSES

**Danish Ali**  
Director of Stage Management

**Qasim Bhatti**  
Ass. Gen. Sec of KETS

**Speakers**

**Faiza Amir Khakwani**  
President of Media Club, Graphic Designer, Photographer

**Miss Farhana Asghar Khokhar**  
Co-Advisor KEPSES  
Lecturer  
Department of Education

**Saman Rubab**  
Vice President of XCESS Society,  
Web Developer

**DATE: 15, MAY, 2023**      **TIME: 02:00 P.M**      **VENUE: ICT BUILDING AUDITORIUM**

**Organized By: Kfueit Ethics and Peace for Sustainable Environment Society,  
in collaboration with Quality Enhancement Cell, KFUEIT**

In this century, all over the world people are struggling to fight for women's right. We Muslims are extremely lucky in this for Women's rights were clearly explained 1400 years ago in Islam. The only problem nowadays is that we Muslims are not completely aware of them. KFUEIT Ethics and Peace for Sustainable Environment society in collaboration with quality enhancement cell is organizing a competition and a seminar on Women's rights in Islam.



An MoU was signed between the Khwaja Fared University of Engineering & Information Technology (KFUEIT) and Health Services Academy (HAS) Islamabad for the establishment of the Artificial Limb Center at KFUEIT. Worthy Vice Chancellor Prof. Dr. Suleman Tahir and Vice Chancellor of HAS Prof. Dr. Shahzad Ali Khan signed the documents. In this regard, Prof. Dr. Muhammad Suleman Tahir Said that universities have to impart education to the students in such a way that they can contribute to the welfare of society.



# Economic Sustainability

**8** DECENT WORK AND  
ECONOMIC GROWTH



**9** INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



**12** RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION





## Economic Sustainability

Economic sustainability lies at the heart of Khwaja Fared University of Engineering and Information Technology (KFUEIT) vision to create a future that thrives on responsible consumption, production, and growth. Understanding that financial decisions have far-reaching consequences, the university actively embraces sustainable procurement practices, aligning its strategies with the United Nations Sustainable Development Goal 12 (SDG 12): Responsible Consumption and Production. By sourcing goods and services responsibly KFUEIT fosters a market for environmentally friendly and socially conscious products, setting a positive example for its stakeholders and peers.

Recognizing the influence of investments, KFUEIT takes a principled approach towards responsible investment and divestment strategies, also in accordance with SDG 12. The university prioritizes investments in ventures that demonstrate a commitment to environmental and social well-being while divesting from industries that may conflict with its sustainability goals.

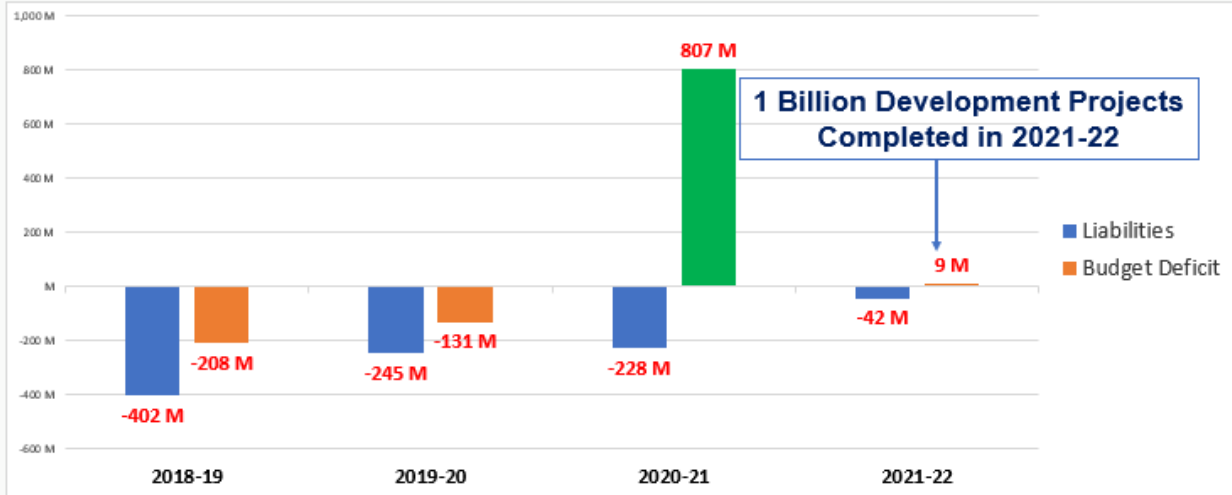
A commitment to economic sustainability does not come at the expense of financial viability. On the contrary, KFUEIT has demonstrated that sustainability initiatives can yield cost savings and economic benefits, aligning with SDG 8: Decent Work and Economic Growth. By streamlining processes, optimizing resource usage, and minimizing waste, the university contributes to its financial well-being while simultaneously fostering a healthier planet.

Beyond internal benefits, KFUEIT acknowledges its role in supporting local and regional economic development, in harmony with SDG 9: Industry, Innovation, and Infrastructure. By collaborating with local businesses, nurturing entrepreneurship, and fostering innovation, the university helps stimulate economic growth and prosperity in its immediate community.

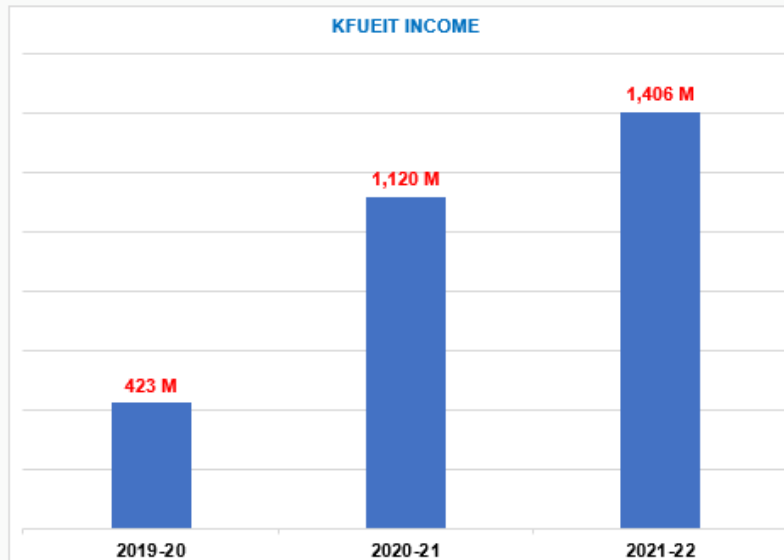
In this section of the report, we delve into KFUEIT multifaceted approach to economic sustainability, examining its sustainable procurement practices, responsible investment and divestment strategies, cost savings from sustainability initiatives, and contributions to local and regional economic development. Through these endeavors, KFUEIT exemplifies its dedication to integrating economic prosperity with environmental and social responsibility, illustrating how a holistic commitment to sustainability can pave the way for a thriving and resilient future.



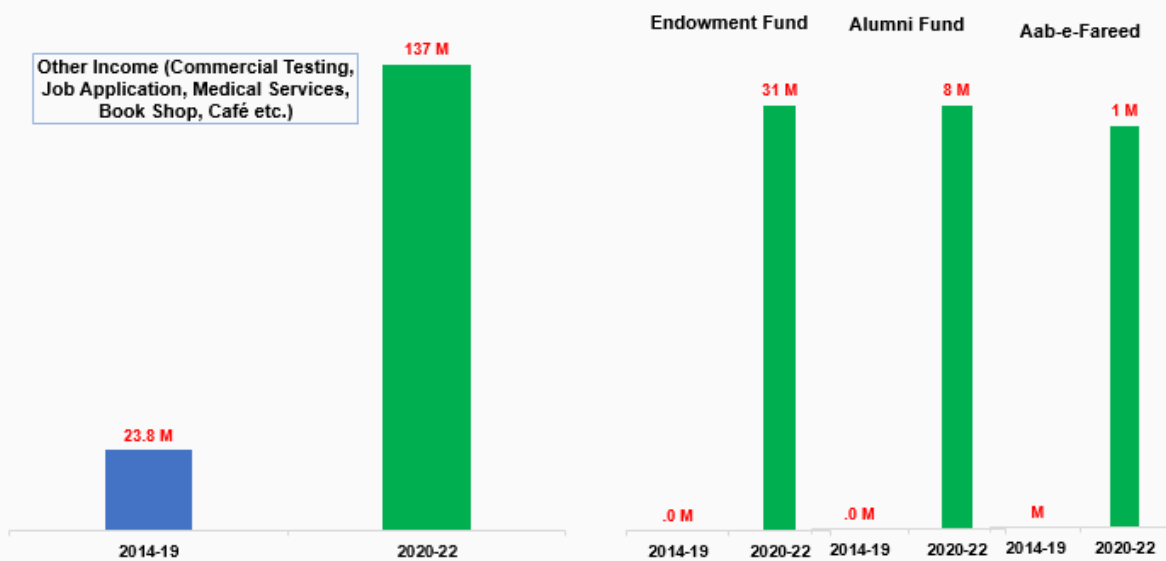
## Financial Management for Sustainability



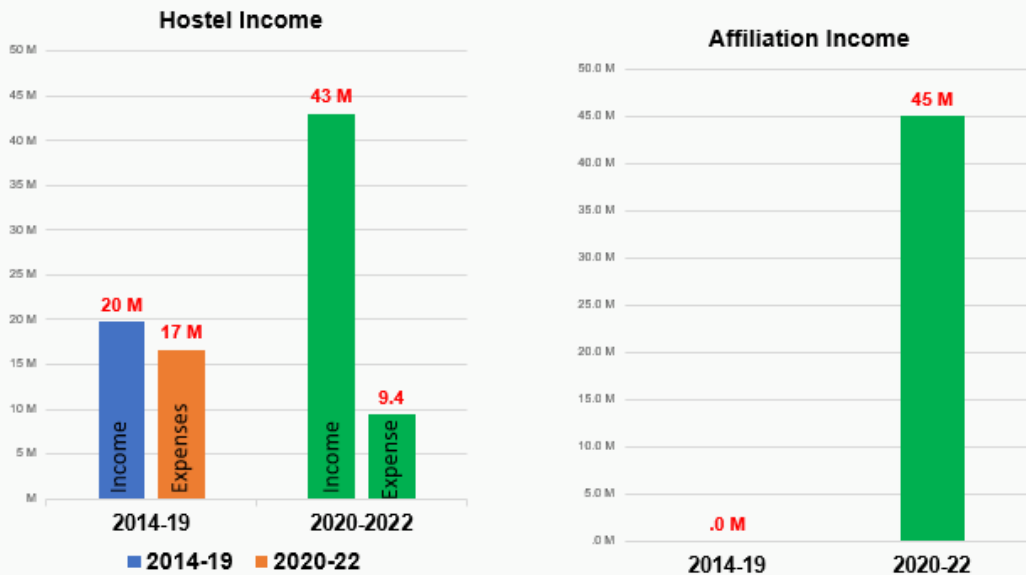
## KFUEIT Income Chart



# Resources of Funds Generation



# Resources of Funds Generation



## Collaboration and Linkages (70 MoUs)



1. Lanzhou University China
2. ITBB - Chinese Academy of Tropical Agriculture Science
3. OCRE - Chinese Academy of Tropical Agriculture Science
4. RRI - Chinese Academy of Tropical Agriculture Science
5. Bir Ventures USA Ltd (Ideasit)
6. Technische Universität Bergakademie Freiberg, Germany
7. Guangxi Academy of Biotechnology, China
8. Kamran Foundation - USA
9. University of Tasmania Australia
10. Dicle University Turkey
11. University of Arizona, Tucson, USA
12. Chinese Academy of Agricultural Sciences, Wuhan, China
13. Baku Engineering University (Azerbaijan)
14. Universiti Putra Malaysia
15. Helmut Mediterranean Research & Science University, Turkey
16. University of California, Davis, USA
17. Chinese Academy of Tropical Agricultural Sciences-RRI
18. Nongfeng Information Technology Co, Ltd, Nanjing, China
19. University of Teknologi, Petronas Malaysia
20. Beijing Vocational College of Agriculture
21. IMRAI
22. COMSTECH
23. MNS UET, Multan
24. SUITEMS
25. University of Engineering and Technology, Lahore
26. Dawood University of Engineering & Technology
27. Mehran University of Engineering & Technology Jamshoro
28. NED university of Engineering & Technology
29. University of Swat
30. Inter University Consortium for promotion of social science
31. GC University, Lahore
32. National Skills University, Islamabad
33. GC Women University Faisalabad
34. Farm Dynamics Pakistan
35. District Police, RYK
36. PEECA for Solarization the University
37. The First Women Bank Ltd
38. Mir Ghazkar Khan Rind University of Technology, DGK
39. Ghazi University, DGK
40. Pakistan Boy Scouts Association
41. University of Home Economics, Lahore
42. Al-Saeed Medical Complex, RYK
43. Hameed Hospital, RYK
44. Jallundhar Foods Ltd, RYK
45. Hama Medicare Hospital, RYK
46. Diya Pakistan
47. Bayer Crop Sciences, Pakistan
48. University of Agriculture, QI Khan
49. Ziauddin University Karachi
50. MoU IBA Sukkur
51. Cake & Bake
52. Drug Advisory Training Hub
53. Elite Sports Pakistan
54. Mevlana Program Punjab Ranger
55. Rural Education & Economic Development Society Pakistan
56. University of Baltistan SKARDU
57. Islamia University of Bahawalpur
58. PITB regarding E-Rozgar
59. FPCCI and IUCPSS
60. Drug Advisory
61. PITB regarding E-Rozgar new
62. Helping Hand Relief and Development
63. IFANCA
64. Iqra University
65. JK Dairies
66. Sawie Ecosystems, Rawalpindi
67. University of Jhang
68. Execution of MoU for Solarization of KFUEIT RYK (PEECA)
69. Emerson University Multan



## Construction of Commercial Market (O.R)



## Construction of Executive Club / Spots Complex (O.R)



## 50 Numbers of Smart Class Rooms



- With 50 New Class Rooms **25000+ students** can be Accommodated

## 50 Nos of Smart Class Rooms (O.R)



## Community Center Hall (O.R)



## Construction of Ongoing Projects (O.R)



### Faculty Residences



### Student's Hostel



## Jamia Masjid



## Guest House (O.R)



Parking Area



Walking Solar Shed









## Education and Research

As a beacon of knowledge and innovation, Khwaja Fared University of Engineering and Information Technology (KFUEIT) has made it its mission to integrate sustainability principles into every facet of education and research. By aligning with the United Nations Sustainable Development Goal 4 (SDG 4): Quality Education, the university aims to equip its students with the knowledge and skills necessary to become informed global citizens committed to a sustainable future.

In pursuit of this goal, KFUEIT has taken significant strides to infuse the SDGs into its curriculum and research programs. By integrating sustainability themes into various disciplines, the university seeks to inspire critical thinking and foster a deeper understanding of complex global challenges. Research projects and initiatives undertaken at KFUEIT are purposefully geared towards addressing sustainability challenges related to each SDG. From climate change and renewable energy to social inequality and poverty alleviation, KFUEIT encourages its researchers to delve into pressing issues and contribute to transformative solutions.

Central to KFUEIT commitment to SDG 4 is the active engagement of students and faculty in sustainability-focused activities. The university provides numerous opportunities for students to participate in sustainability projects, workshops, and initiatives, cultivating a sense of responsibility and agency towards building a better world. Faculty members, as the driving force behind academic excellence, play a pivotal role in incorporating sustainability principles into their teachings and research endeavors, creating a ripple effect of knowledge and inspiration.

Collaboration stands as a cornerstone of KFUEIT approach to SDG implementation, aligned with SDG 17: Partnerships for the Goals. Recognizing that global challenges demand collective action, the university actively collaborates with other institutions, organizations, and community stakeholders to pool resources, knowledge, and expertise. These collaborations enable KFUEIT to broaden its reach and magnify its impact in driving positive change.

## Vice Chancellors Conference



## 1st & 2nd Convocation 2022



## International Conferences / Seminars



**Seminar On Fikr e Fareed & Islamic Calligraphy Exhibition**

Chief Guest: **Honr. Khawaja Moeen ud Din Mehboob Koreja**  
Sajjada Naib-e-Darbar  
Hazrat Khwaja Ghulam Fareed (r.a.)

Guest Speakers: **Honr. Khawaja Ghulam Qutab ud Din Faridi**  
President National Masahid Council Pakistan

Prof. Dr. Muhammad Subhan Tabir  
Vice-Chancellor, KFUEIT

Prof. Dr. Anshad Majeed Laghari  
Dean of all Faculties, KFUEIT

December 13th, 2021 Monday 11:00 am to 1:30 pm  
Civil Auditorium, KFUEIT

Seminar Coordinator: **Dr. Shabid Habib**  
0313-5250584  
Head of Department

Organized By: Department of Humanities & Social Sciences  
Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan



IC on Precision and Sustainable Agriculture

IC on Physical Sciences and Engineering

Kisan Meela

## Innovative Ideas



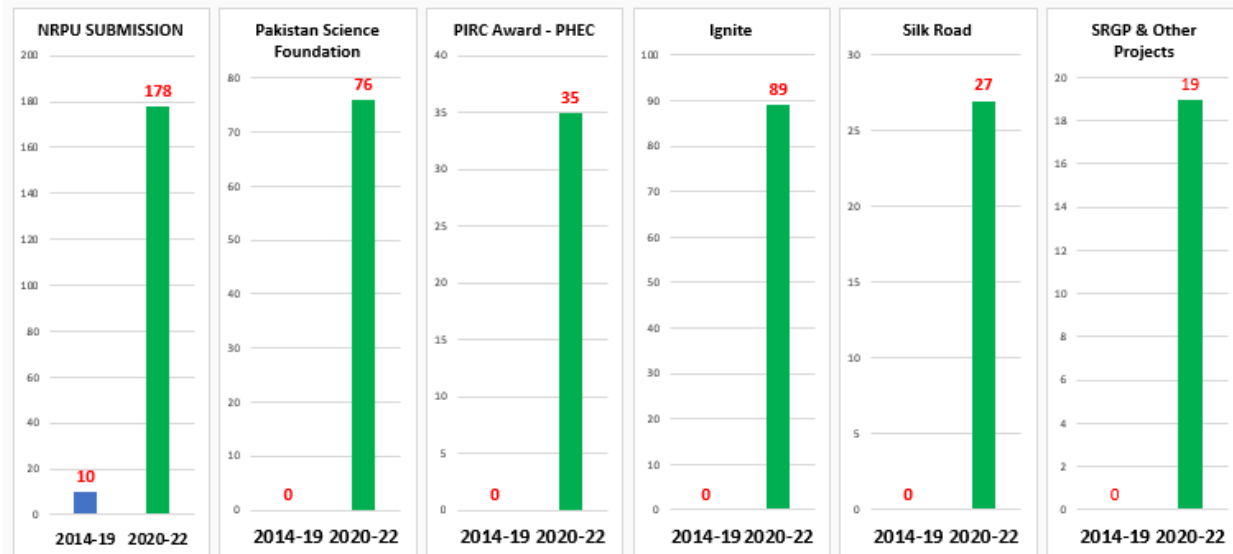
## High Tech Lab



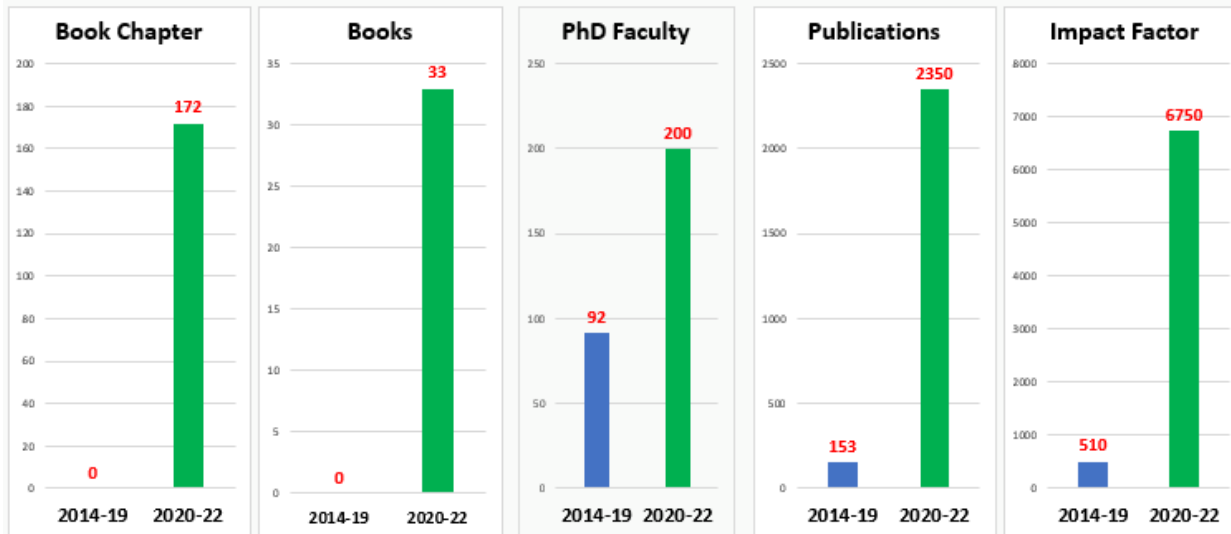
## Lab Facilities



## Projects Funding from Various Sources



# Knowledge Creation & HR Development & Community Services



# KFUEIT- Benchmarking



Benchmarking  
2016 to 2021 | All subject areas

Metric: Publications in Q1 to Q3 Journal Quartile by CiteScore (%)

Entity	2019	2020	2021
Khwaja Fareed University of Engineering & Information Technology	76.7	82.5	85.5
Middle East Technical University	80.2	85.7	84.3
Pakistan	66.3	67.6	73.3
Selcuk University	60.0	66.6	71.8
Turkey	60.0	63.8	68.2
University of Karachi	55.9	60.4	68.8
University of Sindh	58.0	56.4	68.1

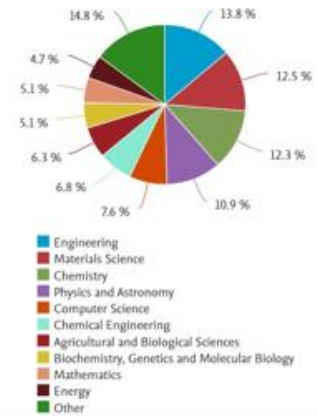
All Metrics | Rankings Metrics

Benchmark one metric over time | Benchmark multiple metrics

Metric: International Collaboration (%)

Entity	2019	2020	2021
Khwaja Fareed University of Engineering & Information Technology	74.3	79.4	79.3
Middle East Technical University	38.7	40.5	42.2
Pakistan	54.0	59.4	60.1
Selcuk University	28.9	31.2	38.1
Turkey	24.1	26.4	27.1
University of Karachi	41.2	50.3	51.6
University of Sindh	52.7	52.4	56.3

Khwaja Fareed University of Engineering & Information Technology




## KFUEIT International Journals

- International Journal of Engineering and Material Sciences
- KFUEIT Journal of Humanities and Social Sciences



Prof. Dr. Muhammad Suleman Tahir  
Vice Chancellor KFUEIT

Webinar on  **LIVE**

## Nanosciences & Nanotechnologies, from Knowledge generation to R&D translations

Guest Speaker

**Prof. Malik Maaza**

UNESCO UNISA ITL/NRF Africa Chair in Nanosciences & Nanotechnology  
Editor-In Chief of Nano-Horizons

Date: May 25, 2023

Time: 3:00 pm

Organized by: Institute of Physics

**Khwaja Fareed University of Engineering and Information Technology**

## Development and Assessment of IoT Based Smart Irrigation System

Pakistan's agriculture plays an important role in the country economy and it contributes 24.4 % in the GDP. Agriculture in Pakistan is irrigated by the world largest irrigation system, called the Indus Basin Irrigation System (IBIS) which is experiencing shortages of water due to ever increasing water demand and climate change. However, there is potential to save the water using the latest water conservation technologies and improved irrigation methods. IoT is playing a vital role for resource conservation and increasing the irrigation efficiency. For a new agricultural area, without knowing or monitoring the important parameters of the soil, cultivation will be difficult and so the farmers suffer from financial losses. This project aims to develop and application of the flow measurement, automatic weather measurement parameters and soil moisture measurement using IoT based system which is comprised of the soil different sensors, smart computation equipment coupled with solar panels. Coding for flow measurement using sharp crested weir in Raspberry pi and sensors calibration was done in the laboratory. This system will provide real time monitoring and farmers can access to the history of crops and they can see the information saved to cloud on mobile phone as well as laptop. Results show that the accurate flow and moisture measurement can be done using the indigenous technology and saves the water,  $R^2 = 0.9987$  (for ultrasonic flow measurement sensor) and  $R^2 = 9942$  (for soil moisture sensor). Both values show that sensors are working accurately. By using this technology in agriculture maximum yield can be produced with less effort and farmers can overcome from financial losses.



### Development and Assessment of Automatic Smart Irrigation System

**Group Members**

1. Shah Rasool    2. M. Ahmad Rustam

**Supervisor**

Engr. Dr. M. Ashraf

**Co-Supervisor**

Engr. Dr. M. Mohsin Waqas



**Introduction**

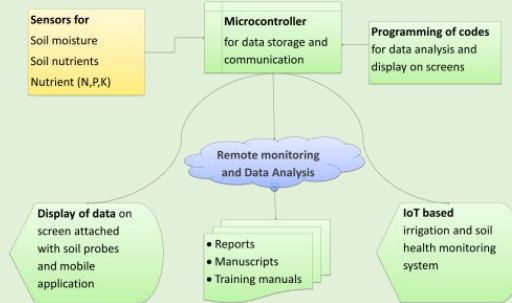
- Agriculture contributes 19% in country GDP
- Water losses in the field 30-40% (41 million cubic meter per annum)
- Precision irrigation saves 80-90% of lost water



**Objectives**

- Development of Automatic irrigation system
- Assessment of water content and nutrients availability at field level using soil moisture and nutrient sensors

**Flow chart for smart irrigation and soil health monitoring system with proposed low cost probes**



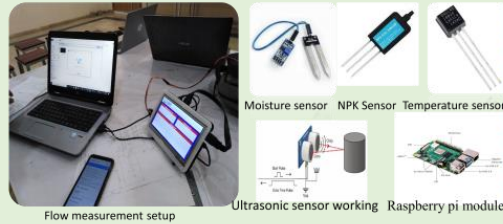
**Outcomes**

- Water saving
- Optimization of fertilizers inputs at field level
- IoT based water accounting and Irrigation System operations



Mobile application Interface

**Materials and Setup**



**Department of Agricultural Engineering, KFUEIT.**

**System Installation**



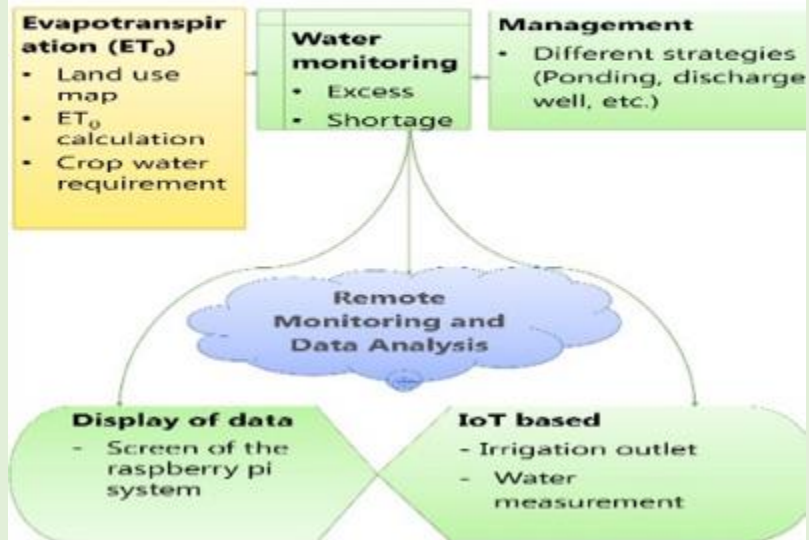




## IoT based outlet system for efficient water management at watercourse level

The aim of the project is to develop an IoT based outlet system for efficient water management at watercourse level. The main objectives of this project are to develop an IoT-based irrigation outlet operation system that will enable farmers to remotely control and monitor their irrigation outlets. Provide farmers with real-time data on the status of their irrigation outlets. Allow farmers to control their irrigation outlets remotely. Provide farmers with an easy-to-use interface for controlling and monitoring their irrigation outlets. Technology is growing with the passage of time. Technology has changed manual work at a fast place throughout the world. People use different types of application to make their work easier. They can be used anywhere in smart phones, tab, laptop, etc. This IoT based irrigation operation will help the People to monitor their irrigation to crops. The people can get maximum yield without the loss of water.

### Flow Chart for IoT-Based outlet System for Efficient Water Management





## Food Waste to Protein Production by Using Insects (Black Soldier Fly- Farming in KFUEIT)

Khwaja Fareed University of Engineering and Information Technology (KFUEIT) has embarked on a groundbreaking initiative to tackle food waste management and sustainable protein production through Black Soldier Fly (BSF) farming. Leveraging the BSF's ability to efficiently convert organic food waste into valuable protein sources, KFUEIT aims to reduce environmental burdens while generating a sustainable and nutritious feed. The larvae of BSF consume a wide range of organic materials, including food scraps and agricultural waste, transforming them into nutrient-rich compost and minimizing greenhouse gas emissions. The harvested larvae also serve as a protein-rich feed for animals, lessening the pressure on traditional sources and promoting a circular and sustainable food system. Moreover, the project yields valuable by-products, such as insect frass, which serves as an organic fertilizer, benefitting soil health and crop production. KFUEIT's innovative approach exemplifies its commitment to environmental sustainability and offers a blueprint for other institutions and communities to embrace insect-based solutions for a more resilient and eco-friendly future.

**Food Waste to Protein Production By Using Insects Project**

**Black soldier Fly Larvae as Feed**

Poultry Feed Dog-Food

Aquaculture

Parrot-Food

Ducks and Pigeons feed

Project Manager & Focal Person: Dr. Muhammad Adnan Bodlah  
(Assistant Professor: Agricultural Entomology, Dept. of Agriculture Eng. KFUEIT)







## Development of unmanned ground vehicle for crop monitoring at tunnel farms

The development of an unmanned ground vehicle for crop monitoring at tunnel farming has proven to be a promising solution for increasing efficiency in the agriculture industry. The vehicle's intelligent features, such as its autonomy and ability to detect crop stress, motion, and human detection and have the potential to greatly benefit farmers by providing real-time data that can help them make informed decisions about their crops. Furthermore, this technology can lead to more sustainable farming practices by reducing the need for pesticides, herbicides, and other harmful chemicals. This vehicle is equipped with sensors and imaging technologies that help farmers monitor their crops in a more efficient and effective manner. This vehicle is also able to operate in environments that may be difficult for humans to access or work in, such as tunnels or harsh weather conditions. It has humidity sensor that detects the wet diseases in leaf and soil. As such, the use of UGV has the potential to revolutionize the way farming is done in tunnel farms, leading to increased yields and profitability.

<p><b>Introduction</b></p> <ul style="list-style-type: none"><li>Tunnel farming is used to protect nursery/vegetable from environmental impact and to ground non-seasonal crop.</li><li>Crops grown in tunnel are severely affected by pest, and diseases attack.</li><li>Proper humidity and temperature is necessary to avoid fungal attack pest and diseases attack.</li><li>In small tunnel it is difficult to inspect humidity, temperature, pest attack due to small size.</li><li>Unmanned robotic vehicle monitoring crops in small tunnel.</li></ul> <p><b>Outcomes</b></p> <ul style="list-style-type: none"><li>Timely avail of disease and pest attack in small tunnels</li><li>Increase productivity</li></ul>	<p><b>Flow Chart for Unmanned ground vehicle for crop monitoring at tunnel farms.</b></p> <p><b>Materials and Setup</b></p> <p>Moisture sensor</p> <p>Relative Humidity and Temperature sensor</p> <p>High resolution 360 Camera</p> <p>Display Screen</p>	<p><b>Mobile Application</b></p> <p><b>Field Trail</b></p>
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## Performance Analysis of Concentrated PVT lens system using Solar Tracker

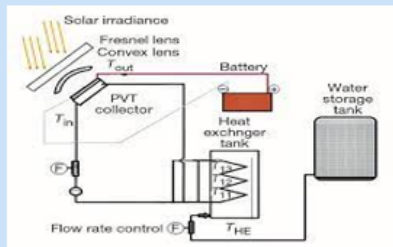
Solar photovoltaic (PV) systems face the challenge of low efficiency, but an innovative solution lies in Concentrating Lens application. By adding relatively inexpensive optical components, Concentrated Photovoltaic (CPV) technology can significantly increase efficiency, making it economically advantageous when module costs are reduced. The proposed project aims to optimize performance under localized conditions and generate large-scale off-grid electricity, thereby flattening the load over time for the national grid. By using lenses to enhance PV performance, this technology can contribute to reducing the import bill and promoting sustainability in solar power generation.



### Performance Analysis of Concentrating PVT lens system using Solar Tracker

The project aimed to develop an efficient design of solar PVT integrated with various non-imaging concentrated lens reduce levelized cost of energy, increase efficiency of Solar PVT systems, and gain thermal energy which has several applications ranging for space heating in residential areas to preheated water in industries. Addition of lens, resulting in higher optical flux and more energy influx can significantly increase the efficiency. The test results in clear weather show that at noon time (11:00–13:00), the total efficiency of thermal and electricity can reach more than 55%

A serious concern with solar photovoltaic PV systems lies with their low efficiency. Solar Photovoltaic-Thermal (PVT) serve as a reasonable approach. However, further addition of concentrated Lens can further enhance the efficiency with very little additional cost. Concentrating photovoltaic (CPV) technology uses relatively sizable optical component(s) to focus optical flux onto a relatively small photovoltaic (PV) cell. The CPV application becomes economically advantageous when the module cost is reduced using optical components that are inexpensive relative to the PV cell.







## **Design and Model Fabrication of Flood Water Purifier for the Remote Areas of Pakistan**

The aim of a floodwater purifier is to provide a reliable and efficient system for filtering and treating floodwaters. Ensuring the removal of contaminants and pollutants from floodwaters to make it safe for human consumption and usage. Preventing the spread of waterborne diseases by eliminating harmful pathogens and bacteria. Minimizing environmental damage by reducing the introduction of pollutants into natural water sources. Supporting disaster relief efforts by providing access to clean and potable water during floods. Enhancing public health and well-being by safeguarding communities from the adverse effects of contaminated floodwaters.

### **Flood Water Purifier**

*Its objective is to purify polluted water to make it drinkable.*

#### **SDG 3.**

Good Health and Well being



#### **SDG 6.**

Clean Water and Sanitation



### **Sustainability.**

The biggest threats during flood events are the impacts on public utilities, which can result in dehydration for stranded and displaced citizens, and heavy runoff contaminating drinking water, including public utilities and private wells. In these situations, water must be disinfected for safe drinking, and the ability to filter water for distribution is paramount to minimizing casualties





## Design and Model Development of Cross Axis Wind Turbine

The aim of this project to design and model development of Cross Axis Wind Turbine with the intention of putting it to use in off-grid regions of Pakistan where there is a lack of access to dependable electricity. In addition to making a constructive contribution to Pakistan's general economic development, the mission of the project is to bring power to those who are economically disadvantaged and live in distant areas of the country. Utilising wind energy as a means to meet the energy needs of underserved populations and fostering sustainable development are the twin goals of this project. Wind power will be utilised by designing and modelling new turbines that are able to harness the power of the wind.

### DESIGN & EXPERIMENTAL SETUP OF CROSS AXIS WIND TURBINE



Figure 01: Cross-axis wind turbine model

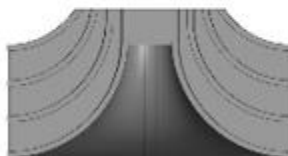


Figure 02: Section view of deflector



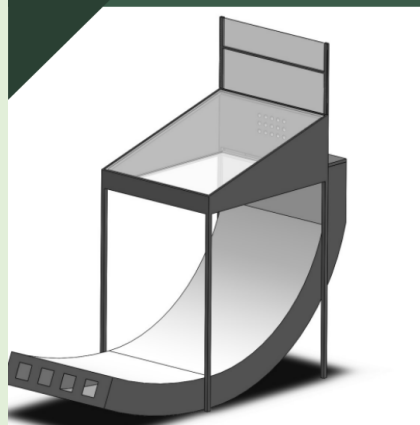
Figure 03: Testing setup of CAWT



## Innovative Design of Solar Fruit Dryer for Efficiency Enhancement

The project aims to develop a novel solar fruit dryer with improved efficiency through uniform heat distribution and concentration. Traditional drying methods result in uneven drying and food spoilage. Our design addresses this by ensuring better heat distribution and uniform drying. Around 40% of global food is wasted, and Pakistan, as an agriculturally rich country, faces challenges in minimizing the demand-supply gap and reducing post-harvest losses. We empower local farmers to preserve and store their produce effectively by providing them with advanced solar fruit dryers. The enhanced heat concentration in our design enables faster drying, allowing farmers to process and store fruits for later use efficiently. This reduces wastage and increases the shelf life of fruits, helping farmers manage harvests and maximize profits. The project promotes value addition in the agricultural sector. Farmers can explore opportunities for processing and marketing dried fruits using solar fruit dryers. This reduces losses, creates income opportunities, and improves market access. In summary, the project aims to develop an innovative solar fruit dryer. By reducing food waste, bridging the demand-supply gap, and empowering local farmers in Pakistan, we enhance food security, increase farmer incomes, and promote sustainable agriculture.

## INNOVATIVE DESIGN OF SOLAR FRUIT DRYER FOR EFFICIENCY ENHANCEMENT



The project, "Innovative Design of Solar Fruit Dryer for Efficiency Enhancement," focuses on developing a novel solar fruit drying system that aims to improve efficiency and effectiveness. By harnessing solar energy, this innovative design aims to optimize the drying process and contribute to food security, aligning with the goals of No Poverty, Zero Hunger, Responsible Consumption and Production, Life on Land

KFUEIT is actively engaged in research and development to advance the field of solar drying technology. As part of this effort, the university is working on the design and development of an innovative solar fruit dryer, focusing on enhancing efficiency and sustainability. The project aims to contribute to KFUEIT's commitment to promoting renewable energy solutions for food processing and preservation.



## Design and Fabrication of Portable and Emergency Ventilator

This project aims to focus on creating a compact, lightweight, and affordable device capable of providing crucial respiratory support to patients in different environments. The primary objectives of this project include ensuring portability, affordability, and user-friendly design. The device will be easily transportable, allowing it to be used in ambulances, remote healthcare facilities, and disaster zones where traditional ventilators may be unavailable. The device aims to be cost-effective, making it accessible to healthcare systems with limited resources or financial constraints. The ventilator will have a user-friendly interface, enabling healthcare professionals with varying levels of expertise to operate it efficiently. Key features of the portable ventilator include its compact and lightweight design, battery-powered operation for versatility, multiple ventilation modes to suit different patient needs, and monitoring and safety features to enhance patient care.



**Design and Fabrication of Portable Emergency Ventilator.**

**3 GOOD HEALTH AND WELL BEING**  
**8 DECENT WORK AND ECONOMIC GROWTH**  
**TARGET 3.B**

The challenges faced by medical facilities in Pakistan, including limited infrastructure, unequal distribution, emphasize the significance of portable ventilators. Portable ventilators can help address these challenges by providing respiratory support in areas with limited access to traditional medical facilities.

Portable ventilators are crucial in providing accessible respiratory support, particularly in remote and under-resourced areas. They offer flexibility and enhanced patient comfort, while also being cost-effective and reducing the burden on healthcare systems. These ventilators play a vital role in emergency preparedness and have the potential to enable home-based respiratory care.



## Design and Model Fabrication of Parabolic dish type water distiller

The aim of this project is to produce steam which can be done by focusing the dish onto the heat absorber which is made of copper. When the temperature rises water gets converted into steam which will go into the heat exchanger which then cleans water. Solar tracker increases the efficiency of the dish as the dish moves according to the sun. It has many other applications depending upon the size of the dish.

## STEAM MANUFACTURING THROUGH SOLAR PARABOLIC DISH

2023

SDG-7

Affordable and clean energy

SDG-13

Climate Action

### SUSTAINABILITY

USAGE OF NATURAL RESOURCES TO PRODUCE IS IMPACTING OUR ENVIRONMENT HARMFULLY. AS SUNLIGHT IS AVAILABLE IN MOST REGIONS OF PAKISTAN AND DNI LEVEL ARE ENOUGH FOR CSP TO WORK THEN THIS PROJECT IS ABLE TO WORK EFFICIENTLY WITHOUT ANY HARMFUL EFFECT AND REQUIRES LESS MAINTENANCE.

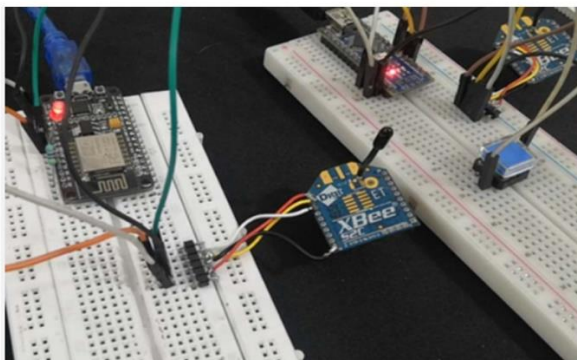


## **IOT Based Smart Agriculture Monitoring System**

"Smart Agriculture Monitoring System: Leveraging IoT for Sustainable Farming" aligns with the United Nations' Sustainable Development Goals (SDGs) by promoting responsible and eco-friendly agricultural practices. By integrating IoT technology, this book addresses SDG 2 - Zero Hunger, by increasing food production and efficiency. Additionally, it contributes to SDG 9 - Industry, Innovation, and Infrastructure, through advancements in agricultural technology. Moreover, the emphasis on sustainable farming supports SDG 12 - Responsible Consumption and Production, ensuring resource conservation. Lastly, the book's focus on empowering farmers globally ties into SDG 17 - Partnerships for the Goals, fostering collaborations to achieve sustainable agricultural development worldwide.

### **IOT BASED SMART AGRICULTURE MONITORING SYSTEM**

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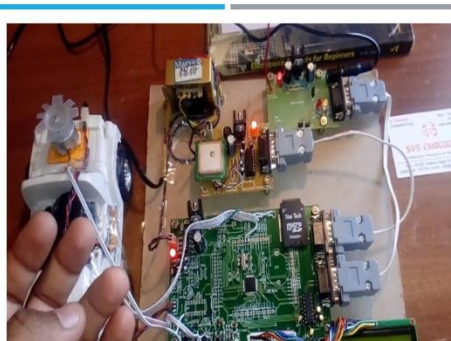


## IoT-Based Vehicle Accident Detection and Tracking System using GSM and GPS

The "IoT-Based Vehicle Accident Detection and Tracking System using GSM and GPS" aligns with several United Nations Sustainable Development Goals (SDGs), contributing to safer and more sustainable transportation. By enhancing road safety through accident detection and quick emergency response, the system supports SDG 3 - Good Health and Well-being. Moreover, its ability to facilitate efficient emergency services and reduce accident-related fatalities promotes SDG 9 - Industry, Innovation, and Infrastructure. Additionally, by mitigating road accidents, the system contributes to SDG 11 - Sustainable Cities and Communities, fostering safer and more resilient urban environments.

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## Advance Thermal Autonomous Drone

The "Advance Thermal Autonomous Drone" aligns with several United Nations Sustainable Development Goals (SDGs) to address global challenges. By enabling autonomous operations, it contributes to SDG 9 - Industry, Innovation, and Infrastructure, fostering advancements in unmanned aerial technology. The drone's applications in search and smart farming, smart agriculture, and infrastructure inspection support SDG 11 - Sustainable Cities and Communities, ensuring safer and more resilient urban environments. Moreover, its role in environmental monitoring and precision agriculture promotes SDG 13 - Climate Action and SDG 2 - Zero Hunger, by facilitating sustainable resource management and enhancing food production.

### ADVANCE THERMAL AUTONOMOUS DRONE

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## Smart Tunnel Farming

"Smart Tunnel Farming" aligns with several United Nations Sustainable Development Goals (SDGs) to address pressing global challenges. By optimizing resource usage and reducing water consumption, it contributes to SDG 6 - Clean Water and Sanitation. Furthermore, its ability to provide year-round crop cultivation enhances food security and supports SDG 2 - Zero Hunger. Lastly, the adoption of advanced technologies in agriculture promotes SDG 9 - Industry, Innovation, and Infrastructure, fostering sustainable and efficient farming practices for a more resilient future.

### SMART TUNNEL FARMING

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## Tomato Harvesting Robot Using Computer Vision

The Tomato Harvesting Robot using Computer Vision aligns with several United Nations Sustainable Development Goals (SDGs) to address agricultural and societal challenges. By optimizing harvesting efficiency, it contributes to SDG 2 - Zero Hunger, ensuring increased food production and accessibility. Additionally, the reduction in manual labor supports SDG 8 - Decent Work and Economic Growth, promoting sustainable employment and improved livelihoods in the agricultural sector. Lastly, the implementation of advanced technologies fosters progress towards SDG 9 - Industry, Innovation, and Infrastructure, driving agricultural innovation and sustainable practices.

### TOMATO HARVESTING ROBOT USING COMPUTER VISION

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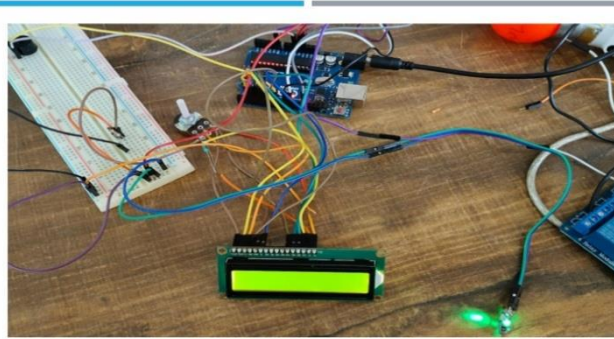


## IoT-Based Patient Monitoring System Using

The "IoT-Based Patient Monitoring System Using ML" aligns with key United Nations Sustainable Development Goals (SDGs), contributing to global healthcare advancement. By promoting accessible and quality healthcare services, the system supports SDG 3 - Good Health and Well-being. Its use of IoT and ML technologies improves disease prevention and early detection, furthering progress toward SDG 9 - Industry, Innovation, and Infrastructure. Additionally, the system's emphasis on proactive and personalized healthcare fosters SDG 10 - Reduced Inequalities, ensuring equitable health outcomes for all individuals

### IOT BASED PATIENT MONITORING SYSTEM USING ML

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## Exercise Depot App

The Exercise Depot App is a mobile application designed to promote sustainable health and well-being (SDG 3) by empowering individuals to engage in regular exercise and fitness activities. Through its diverse library of workout routines, personalized planning, and nutritional guidance, the app encourages a healthy lifestyle and fosters a sense of physical and mental well-being. By providing users with tools to track their progress and set fitness goals, the app contributes to the promotion of inclusive and equitable quality education (SDG 4) in the realm of fitness and exercise. Additionally, the app's social platform fosters a supportive community (SDG 10) where users can share achievements, motivate one another, and foster a sense of belonging. By integrating sustainability practices into its design and encouraging users to adopt environmentally conscious habits, the Exercise Depot App contributes to the overall goal of sustainable development (SDG 13) by promoting responsible consumption and production in the fitness industry.

- The Exercise Depot App promotes sustainable health (SDG 3) through exercise empowerment, diverse routines, and nutritional guidance. It fosters community support (SDG 10) and contributes to inclusive education (SDG 4) by enabling goal tracking. By encouraging responsible habits, it aligns with sustainable development (SDG 13) goals for a healthier future.

### EXERCISE DEPOT APP



## Mini Portable Rainfall Simulator for Soil Erosion

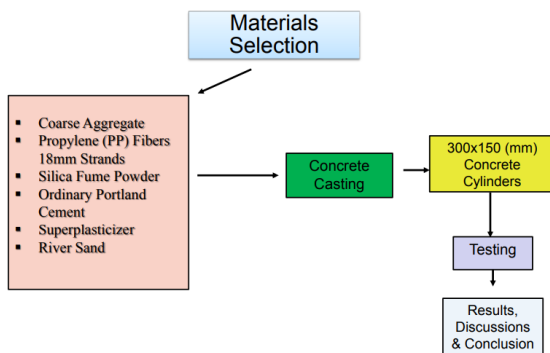
Rainfall simulators play a vital role in hydrological research and environmental studies by providing controlled and replicable conditions to study the effects of rainfall on various surfaces and ecosystems. In this we present the design, construction, and applications of a mini portable rainfall simulator aimed at addressing the need for a compact and versatile tool in rainfall simulation experiments. The objective of this project was to develop a cost-effective and easily transportable rainfall simulator that could be utilized in various field settings.



## Enhancing Mechanical Strength of Concrete through Polypropylene Fiber Incorporation

This project aims to develop an innovative, lightweight, cost-effective, and sustainable concrete using Polypropylene fibers and assess its application in construction practices. The study investigates the mechanical properties and performance of concrete with varying dosages of polypropylene fibers and partial substitution of cement with densified silica fume. The results show that PP fibers significantly enhance concrete ductility, crack resistance, and overall durability. With an optimized dosage of 1.5% PP fibers, the concrete's compressive strength improved by 20%, offering practical insights for achieving superior mechanical performance and durability in construction projects.

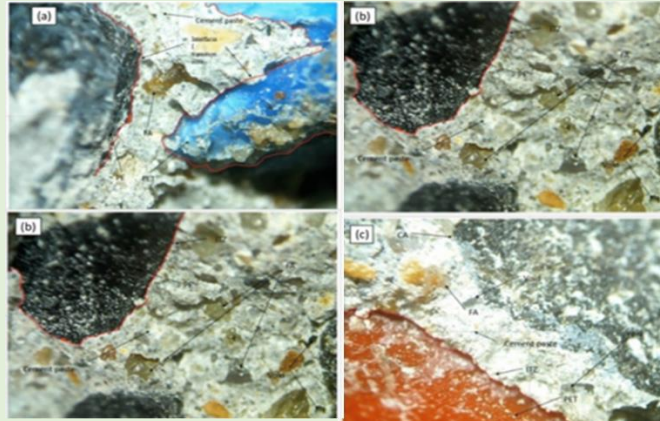
### Experimental Plan





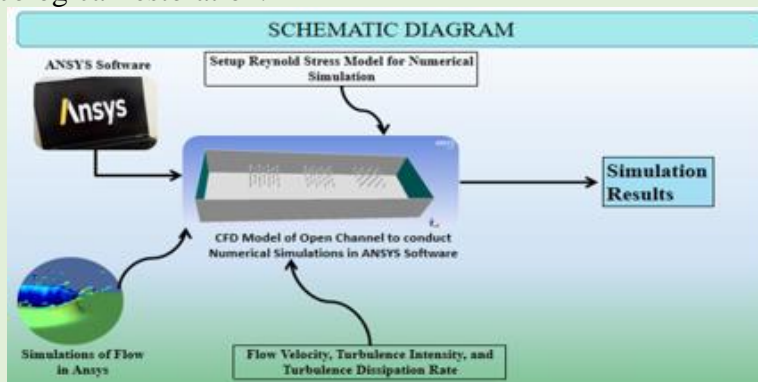
## To Investigate the Mechanical and Durability Proportion of Concrete by Replacing N.A.G with Plastic Made Coarse Aggregate

The study confirms that Plastic Waste Aggregate (PWA) can replace up to 40% of natural aggregates in green concrete production, enhancing durability and resistance to abrasion, impact, and chloride ions. PWA proves beneficial for earthquake-resistant structures, pervious concrete for groundwater recharge, and corrosion-resistant reinforcement. Additionally, it addresses environmental concerns, reducing plastic waste and promoting sustainable practices in the construction sector.



## Numerical Investigation of the Flow Characteristics in an Open Channel in the Presence of Floating Vegetation Islands

This groundbreaking research explores the impact of Floating Vegetation Islands (FVIs) on open channel flow dynamics using advanced Computational Fluid Dynamics (CFD) modeling techniques. The study reveals significant changes in flow parameters, including velocity, turbulence, Reynolds stresses, and turbulence kinetic energy, providing valuable insights into water quality, sediment transfer, and channel erosion. Understanding the complex interactions between FVIs and flow patterns can lead to more informed and efficient management techniques for open channel systems and offers opportunities for further research in fluid dynamics, hydrology, and ecological restoration.





## 1<sup>st</sup> International On “Sustainable Approaches in Food & Nutrition Systems”

ICSFNS-2023 aims to provide a platform for discussing the issues, challenges, opportunities and findings of Food & Nutrition systems. The ever-changing scope and rapid development of new problems and questions result in the real need for sharing brilliant ideas and stimulating good awareness of this important research field. We promise to produce a bright picture and charming landscape for Food Science & Nutrition, while the support received and the enthusiasm witnessed have truly exceeded our expectations. Therefore, on the day of completion of this journey, we hope to be delighted with a high level of satisfaction and aspiration.

**Scope of Conference**

The objective of 'ICSFNS-2023' is to provide the best opportunity to interact with the participants from food experts, researchers, scientists, and Nutritionists. This conference would be focusing on sustainable approaches in food science and nutrition to combat the present needs of society for a healthy life, addressing the food challenges using innovative processing technologies for the development of better and reliable food systems.

**Conference Themes**

- Food Security
- Food Fortification
- Food Processing
- Global Halal Food scenario
- National & International Food Regulatory scenarios
- Food Safety & Quality Management
- Emerging Trends in Food Science and Nutrition
- Food Waste Utilization
- Nutraceuticals & Functional foods
- Healthy Food Choices
- Healthy Life Style
- Non-communicable diseases
- Climate Change Impact on Food Systems
- Global Challenges in Nutrition
- Global Food crisis and mitigating policies
- Food Chemistry and Food Biotechnology
- Novel Food Processing and Packaging Technologies
- Sustainable Tourism and Global Trade
- Artificial Intelligence and Food Security
- Value Addition

**Conference Key Features**

The two-day ICSFNS-2023 will take place as a hybrid virtual/physical conference at the Institute of Food Science and Technology, Khawaja Fared University of Engineering and Information Technology, Rahimyar Khan, Pakistan, consisting of plenary sessions with keynote speakers, a series of parallel sessions with presentations and interactive sessions and a high-level ministerial segment. A dialogue will focus on innovation that creates sustainable solutions concerning the growth of agricultural products, quality of food, consumption patterns, and conservation of the environment and water resources, and which respond to both farmer needs and market demands.

Registration Type	Deadlines
On-Site Registration: 5000.000	Submission of Abstract: 01 Jun 2023
Virtual Registration: 3000.000	Abstract Acceptance Date: 05 Feb 2023
Registration Fee: 1000.000	On-Site Registration: 01 Feb 2023
Registration Fee: 500.000	

**For Abstract Submission Contact:**  
ICSFNS2023@kfueit.edu.pk  
**For Abstract Queries, Contact:**  
Dr. Muhammad Asif Farooq | 0333-8777656  
Dr. Araf Usjeel | 0333-8989618

**For Registration Contact:**  
Tariq Mehmood  
Account # 01427900538603  
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0333-8777656

**Prof. Dr. Muhammad Suleman Tahir**  
Vice-Chancellor, KFUEIT-RIK

**In Case of Queries Contact:**  
Dr. Adnan Khalig, Secretary ICSFNS 2023  
0300-8771970

## World Food Safety Day-2023

The Institute of Food Sciences at Khawaja Fared University of Engineering and Information Technology (KFUEIT) marked the occasion of World Food Safety Day with great fervor and enthusiasm. A seminar and awareness walk were organized on campus, bringing together local and international experts in the field of food safety. World Food Safety Day, celebrated annually on June 7th, serves as a global platform to raise awareness about the importance of safe food and to promote the adoption of appropriate food safety measures. KFUEIT, known for its commitment to excellence in food sciences, took the initiative to commemorate this significant day. World Food Safety Day is an opportunity for us to raise awareness about the critical issue of food safety and foster a culture of safe food practices. Through this seminar and awareness walk, we aim to equip our students and the community with the knowledge and tools to ensure a safer and healthier food supply."

International Seminar on  
**WORLD FOOD SAFETY DAY 2023**

**Food standards save lives**

**GUEST SPEAKER**  
Dr. Gulhan Unlu  
University of Idaho

**GUEST SPEAKER**  
Prof. Dr. Ahmed Hassan El Ghorab  
Jouf University, Saudi Arabia KSA.

Organized By  
**INSTITUTE OF FOOD SCIENCE AND TECHNOLOGY**

Date: 7th June, 2023 Time: 10:00am-01:00pm Venue: Civil Building Auditorium  
Khawaja Fared University of Engineering & Information Technology - RYK





## World Milk Day-2023

Institute of Food Science and Technology (IFST), KFUEIT-RYK organized an event to commemorate the 'World Milk Day' on June 1, 2023. The speakers at the event focused light on the difficulties confronting Pakistan's dairy business and presented sustainable solutions to address them. They emphasized the need of the dairy industry adopting environmentally friendly practices in order to reduce its environmental impact. Furthermore, the emphasis on delivering nutritious dairy products underlined the sector's critical role in contributing to improved health and well-being. The event provided as a platform to educate guests about the importance of dairy in supporting both the earth and human livelihoods. Participants were invited to actively contribute to lowering their environmental footprint and ensuring a healthier future by supporting sustainable dairy practices.



## Subnational Food System Dashboard Dialogue

Khwaja Fareed University of Engineering and Information Technology organized an International Youth Dialogue on Overcoming Malnutrition in which nutritionists and professors from different countries participated. A youth focused dialogue "Subnational Food System Dashboard Dialogue" was organized by the Department of Nutrition and Dietetics of Khwaja Farid University in collaboration with the Global Alliance for Improved Nutrition. Through this occasion, Khwaja Fareed University demonstrated its dedication to promoting global collaboration and knowledge exchange to fight malnutrition and enhance food systems. The conversations and exhibits gave insightful information about the problems and solutions that may be used to treat hunger on a worldwide scale, particularly in South Asia and Africa. With a focus on promoting wholesome food options and boosting food security, the event served as a catalyst for raising awareness and inspiring action to create a better and more sustainable future for everyone.





## Dairy Value Addition Project for Rural Women Development

The project was aimed to provide training to female farmers regarding value addition of different dairy products. The activity was planned and arranged with Food Security & Agriculture Center of Excellence (FACE), Fauji Fertilizer Company Limited (FFC) on December 20-21, 2022, at FACE in Ahmedpur Lamma, Sadiqabad. The female farmers were provided training regarding preparation of yoghurt, cheese, clarified desi ghee, butter etc.



## World Food Day 2022

Institute of Food Science and Technology, KFUEIT and UN SDGs celebrated the World Food Day, 2022, which is a signature event of UN and FAO. This year the theme was "Leave No One Behind". The speakers emphasised the significance of World Food Day and the essential role that dietitians and food technologists play in solving issues related to food safety and security. Participants, including IFST staff and students, pledged to fight food waste and help the world reach its objective of ending hunger. The occasion served as a forum for bringing attention to the world's food problems and stressed the need for individuals and experts in the disciplines of food science and nutrition to work together to guarantee that everyone has fair access to healthy food. By commemorating World Food Day and adopting the slogan "Leave No One Behind," the IFST community showed their dedication to assisting in the fight against hunger and advancing sustainable food systems for all.

**world food day**  
LEAVE NO ONE BEHIND

**PATRON IN CHIEF**  
PROF. DR. SULEMAN TAHIR  
WORTHY VICE CHANCELLOR  
KHWAJA FAREED UEIT RYK

**GUEST SPEAKER**  
PROF. DR. UMAIR ARSHAD BA JWA  
CHAIRMAN OF DEPARTMENT OF FST  
DIRECTOR EXTERNAL LINKAGE  
GOVT. COLLEGE UNI, FAISALABAD

DATE: 18-10-2022  
TIME: 11 AM  
VENUE: CIVIL AUDITORIUM  
KFUEIT

ORGANIZED BY  
INSTITUTE OF FOOD SCIENCE AND TECHNOLOGY, KFUEIT  
www.kfueit.edu.pk





## **Student Leadership and Entrepreneurial Approach**

The seminar's objectives were to inform attendees about leadership traits, opportunities for Pakistani students in the USA, and how to apply for international scholarships. The occasion offered aspiring students and businesspeople a great platform to learn useful information and investigate global chances.



## **Capacity Building of Dairy Farmers on Milk Value Chain in Southern Punjab**

Institute of Food Science and Technology, KFUEIT with collaboration of Department of Dairy Technology FAP&T, UVAS has conducted one day workshop on 'Capacity Building of Dairy Farmers on Milk Value Chain in Southern Punjab'. The purpose of the gathering was to discuss the difficulties dairy farmers confront and to improve their knowledge of the milk value chain.





## World Milk Day, 2022

Respected faculty members and talented students of IFST showcased an impressive array of products, demonstrating their capabilities and commitment to the occasion. The event emphasized the importance of minimizing dairy waste to reduce environmental impact and combat climate change. The event served as a platform to promote sustainable dairy practices and raise awareness about the significance of World Milk Day.



## The Role of Diet and Nutrition on Mental Health and Well Being

The month of May is celebrated as mental health awareness month since 1949 around the globe. The goal of the seminar is to educate the public on the crucial link between diet, nutrition, and mental health. The event aims to increase awareness among stakeholders about the value of keeping a healthy diet for overall well-being by utilising a variety of media platforms and local events. The session will clarify the crucial part nutrition plays in promoting mental health, leading to a deeper comprehension of the topic. Through this programme, IFST hopes to support international initiatives to increase public understanding of and support for mental health.

The poster features the UEIT logo at the top left. On the top right, it identifies the Patron in Chief as Prof. Dr. Muhammad Suleman Tahir, Vice Chancellor of KFUEIT. The central text reads "Seminar" in a rounded box, followed by the title "DIET AND NUTRITION IMPLICATIONS ON MENTAL HEALTH AND WELL BEING" in bold, orange letters. Below the title, a small photo of the Guest Speaker, Dr. Mahwish Adnan, is shown with her credentials: Psychiatrist, Shekhzaid Hospital RYK, MBBS, FCPS (Psychiatry). At the bottom, three boxes specify the event details: "Date: May 26, 2022", "Time: 9:00 am", and "Venue: Civil Auditorium". The footer states the event is organized by the Institute of Food Science & Technology, Faculty of Food, Health Science & Technology, at Khwaja Fareed University of Engineering and Information Technology.





## Nutritional & Functional Product Development

The event aims to show how nutrition and technology intersect in the food sector, highlighting the significance of developing nutrient-dense, high-value food products that satisfy consumers' shifting dietary demands and preferences. The event promotes entrepreneurship, collaboration, and creativity among the participants and advances the subject of food science and technology at KFUEIT by giving students a platform to showcase their innovative and research-based food products.



## National Nutrition Month March 2022

The purpose of the event is to increase public awareness of the critical role that nutrition plays in preventing malnutrition and undernutrition in Rahimyar Khan and South Punjab. The university and its students are committed to working hard and to the best of their abilities to help Pakistan reach the milestone of ending malnutrition, with the assistance of Worthy Vice Chancellor Prof. Dr. Muhammad Suleman Tahir. The seminar is the first in a series of activities designed to inform students and have a significant impact on the region's diet and health.





## One Day Free Nutrition Camp

The purpose of the event is to raise public awareness of the value of nutrition and how it affects overall health and wellbeing. The camp aims to empower people with individualized nutritional guidance and support, fostering a culture of better health and wellness within the KFUEIT community by providing free nutrition services supervised by certified professionals.



## Women Empowerment: Paving the Way for Equality and Progress

This project aims to promote women's empowerment and gender equality, recognizing their positive impact on society. By emphasizing women's economic empowerment and breaking traditional gender roles, it fosters equal rights and opportunities. Empowered women contribute to a nation's growth, leading to poverty reduction, higher literacy rates, better education, enhanced political representation, and decreased gender-based violence, ultimately creating a more just and prosperous world through cooperation and sustained efforts.





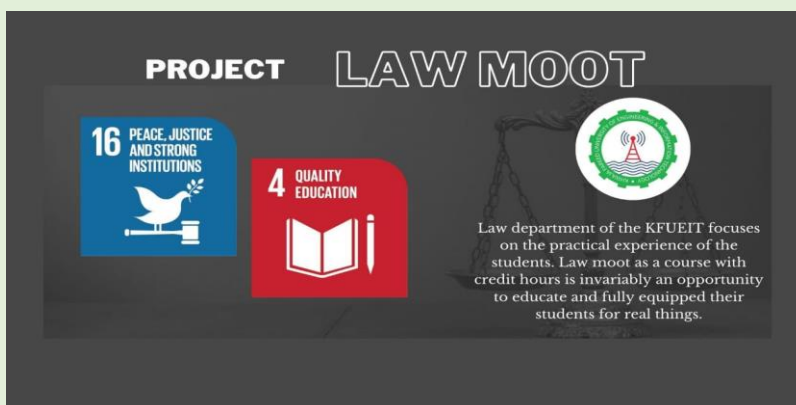
## Primary Education

The "Enhancing Primary Education through Interactive Learning" project seeks to elevate primary education quality by integrating interactive learning techniques into the curriculum. A thorough literature review and needs assessment guide the incorporation of gamification, hands-on activities, educational technology, and creative teaching strategies. The proposed modified or supplementary curriculum introduces interactive learning elements into essential subjects like math, science, and language arts, enriching the learning experience for teachers, students, and parents.



## LAW MOOT COMPETITION

The KFUEIT Law Moot Court Competition offers law students a valuable chance to enhance their advocacy skills through a comprehensive training program and practice oral arguments before distinguished members of the legal community, fostering competence and adaptability in appellate advocacy.



## Rights and Responsibilities of Citizens

The "Rights and Responsibilities of Citizens" project aims to empower individuals with knowledge and awareness, fostering a responsible and engaged citizenry. Informed citizens hold leaders accountable, actively participate in policy-making, and promote positive societal changes, leading to a more inclusive and vibrant democracy. By emphasizing both rights and responsibilities, the project contributes to building a just, prosperous, and respectful community.



### Rights and Responsibilities

You have the **right** to a safe environment.  
You have the **responsibility** to follow safety rules.

You have the **right** to voice your opinion.  
You have the **responsibility** to respect the opinions of others.

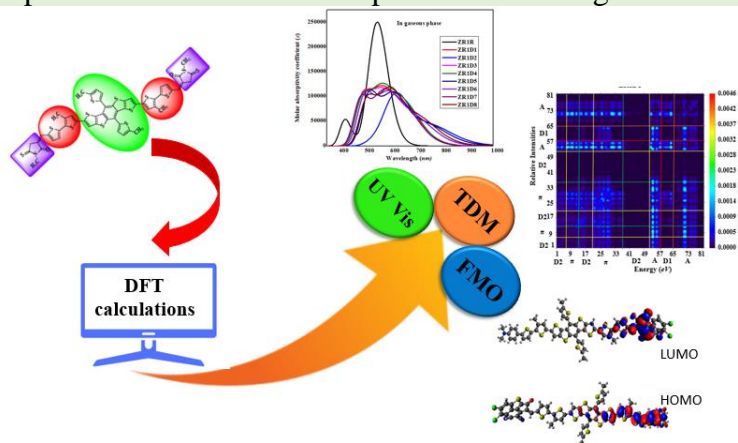
You have the **right** to use school books, materials, and equipment.  
You have the **responsibility** to take care of all school materials.

You have the **right** to fair treatment.  
You have the **responsibility** to treat others fairly.

You have the **right** to a good education.  
You have the **responsibility** to do your best.

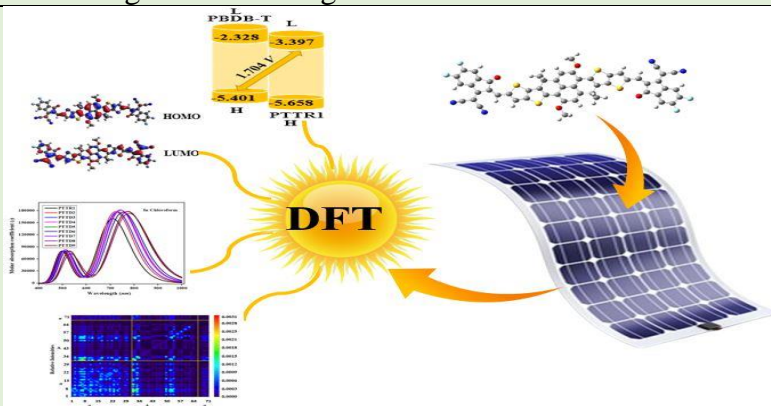
## Second and Third Order Nonlinear Optical Exploration for D- $\pi$ -A Heterocyclic Organic Compound *via* Incorporation of Various Conjugated Acceptor Units

Nonlinear Optics (NLO) investigates the interaction between intense light and matter, deepening our understanding of optical phenomena and enabling practical applications. Organic chromophores, like ZR1D1-ZR1D8, based on dithieno benzo dithiophene (DTBDT) core structure, are highly promising for NLO due to their versatility and rapid response to NLO effects. This study involves creating these compounds and performing DFT calculations to enhance structural optimization and validate experimental findings.



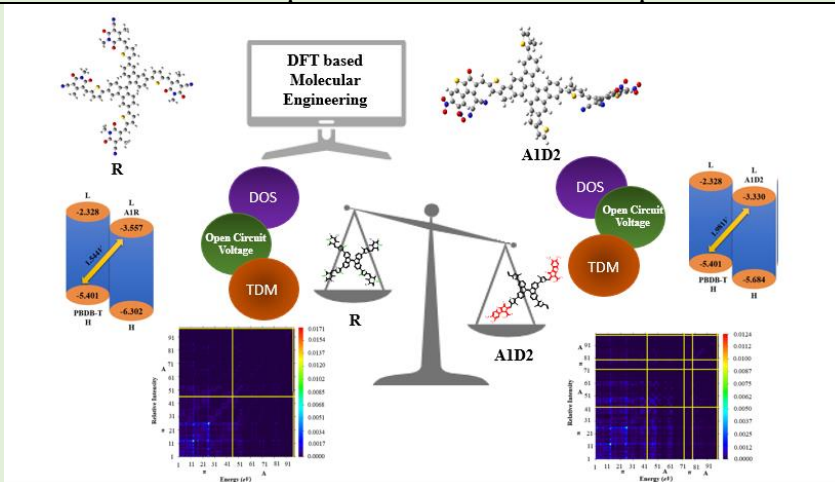
## Exploration of Photovoltaic Properties towards Efficient Organic Solar Cells for Thieno[3,2-*b*]thiophene Fused Naphthalene Core based Acceptor Derivatives

The project aims to develop efficient photovoltaic (PV) materials for advanced technology. A- $\pi$ -A configured fused ring chromophores (PTTD2-PTTD9) were designed by modifying peripheral acceptor entities from PTTR1. Theoretical DFT calculations (M06/6-311G(d,p)) revealed significant electronic influences on HOMO and LUMO, reducing band gaps and widening absorption spectra (722.093-778.692 nm). These fused chromophores with A- $\pi$ -A architecture show promise as potential competitors for efficient PV materials with comparable Voc values and lower reorganization energies.



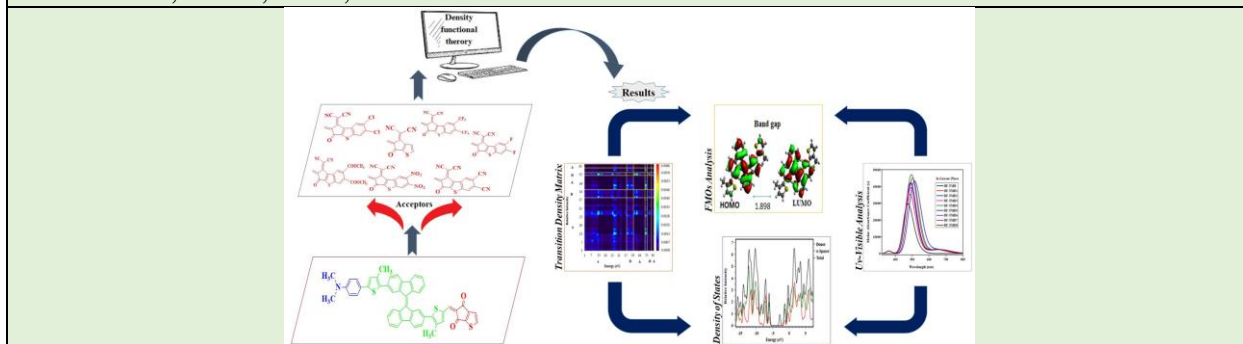
## Exploration of Promising Electronic and Optical Properties of Cyanopyridinone-based Non-fullerene Acceptors for Organic Solar Cells

Currently, non-fullerene-based compounds show the highest efficiency among investigated organic solar cells. This study introduces five novel A- $\pi$ -A chromophores (A1D1-A1D5) with enhanced optoelectronic, photophysical, and geometrical properties. These designed compounds exhibit excellent photovoltaic properties, with compound A1D2 showing effective charge transfer from HOMO to LUMO. The study suggests these computed molecules hold promise as effective candidates for optoelectronic device development.



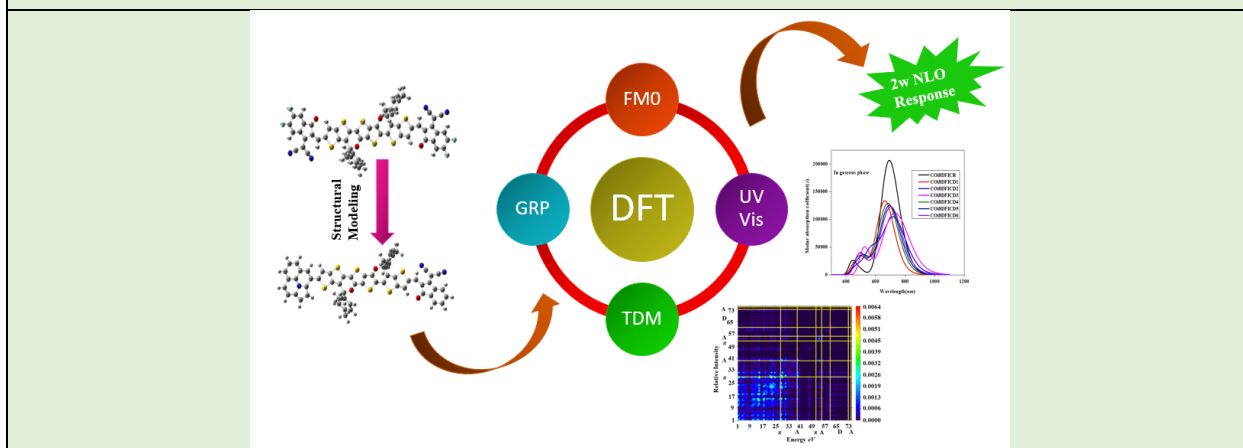
## Theoretical Investigation of Electronic Structure and Nonlinear Optical Properties of Bifluorenylidene Based Derivatives.

Non-fullerene chromophores are gaining attention for their potential in nonlinear optical (NLO) applications and optoelectronic devices. This study introduces a series of bifluorenylidene-based chromophores (BF-TMD1-BF-TMD8) with a D- $\pi$ -A configuration and robust donor and acceptor groups. DFT calculations at the M06/6-311G(d,p) level optimize the molecular structures, followed by a comprehensive theoretical analysis covering FMOs, DOS, TDM, Eb, UV-Visible, GRPs, NLO, and NBOs.



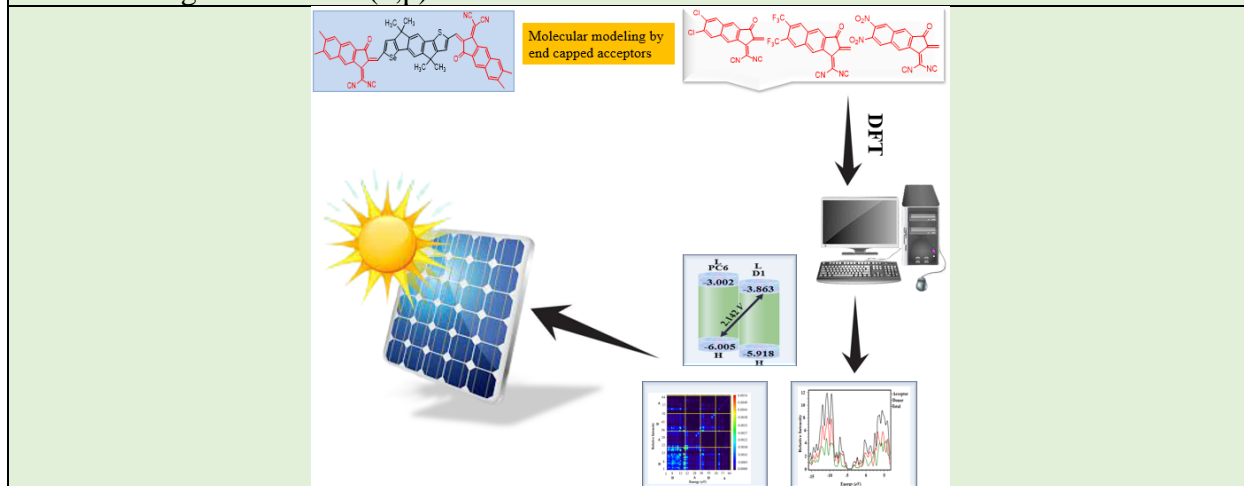
## A DFT Investigation for Nonlinear Optical Properties of Non-fullerene (COi8DFIC) Organic Heterocyclic Compounds

The objective of this project is to incorporate various acceptor components and one donor component into the chemical structure of **COi8DFICR1**. To gain comprehensive insights into structural, vibrational, electronic and optoelectronic properties of **COi8DFIC**, density functional theory (DFT) calculations were employed. The DFT calculations utilized B3LYP method with 6-311G(d,p) basis sets. In summary, the designed compounds demonstrated significantly increased NLO values according to the calculations.



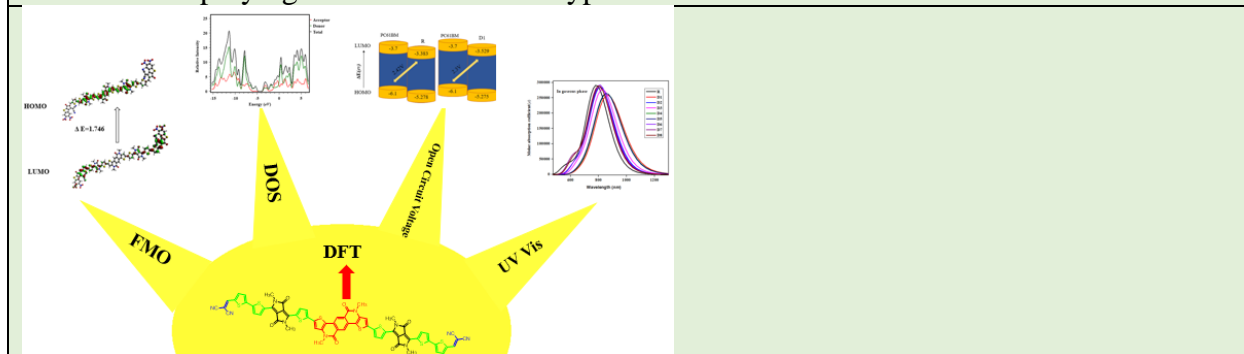
## A Theoretical Study of Selenopheno Thiophene Core Based Non-Fullerene Chromophores by Structural Modification Via Terminal Acceptors to Explore Photovoltaic Response

The objective of this study was to study non-fullerene-based electron acceptors that show remarkable contribution to develop organic based solar cells (OSCs) with maximum possible efficacy via improving their optoelectronic properties. Herein six novel chromophores of A-D-A nature were designed theoretically by structurally modelling of SePTR. DFT calculations were utilized to explore FMO, UV-Vis, DOS, Tdmx and binding energy. To evaluate photovoltaic and optoelectronic properties of designed compounds M06 level of theory was utilized along with 6-311G(d,p).



## Role of Extended End-Capped Acceptors in Non-Fullerene based Compounds towards Photovoltaic Properties

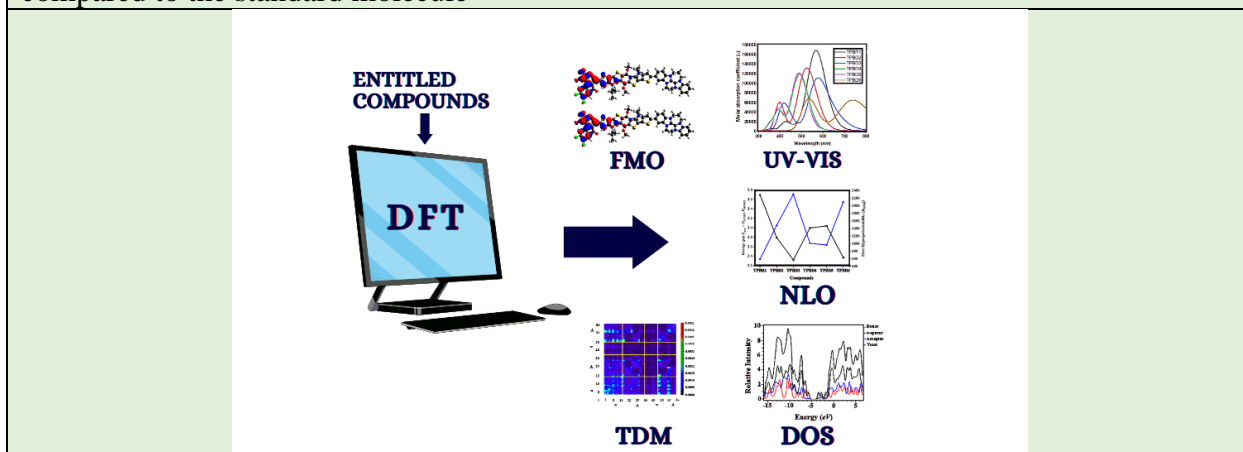
The aim of this project to make Organic solar cells (OSCs) utilizing small-molecule (SM) materials have been at forefront of the photovoltaic sector due to effective optical and electronic characteristics. The quantum mechanical aspect investigation focuses on density functional theory (DFT) analysis of small molecules based on pentacyclic aromatic bislactam (PCLM) to develop highly efficient OSCs. Detailed characterization of these novel molecules was conducted employing DFT and TD-DFT hypothetical simulations.





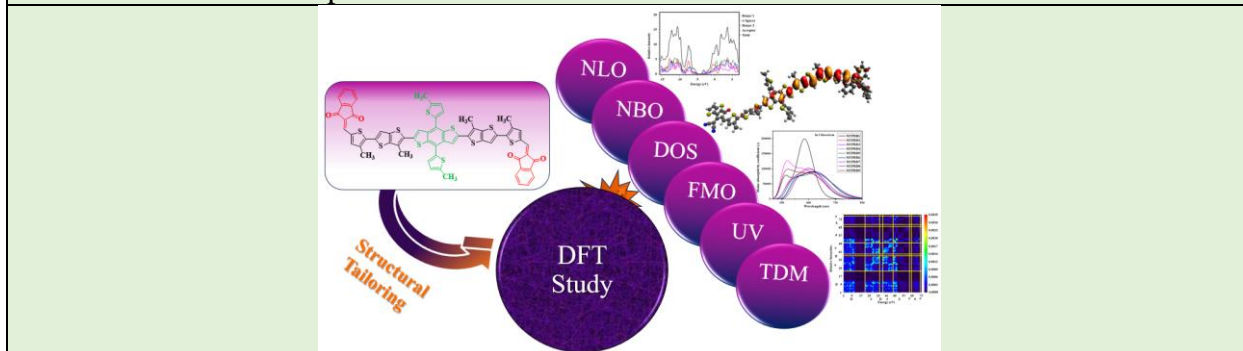
## Theoretical designing of non-fullerene derived organic heterocyclic compounds with enhanced nonlinear optical amplitude: a DFT based prediction

A series of NF based chromophores abbreviated as **TPBD2-TPBD6** with D- $\pi$ -A architecture was designed from the reference compound (**TPBR1**) in order to determine their NLO responses. Promising NLO results were achieved for all derivatives *i.e.*, the highest amplitude of linear polarizability  $\langle\alpha\rangle$ , first ( $\beta_{\text{total}}$ ) and second ( $\gamma_{\text{total}}$ ) hyper-polarizabilities than their parent molecule. The compound **TPBD3** was noted with the most significant NLO properties as compared to the standard molecule



## DFT Computation of Benzothiophene Based NFAs to Explore Efficient Nonlinear Optical Materials

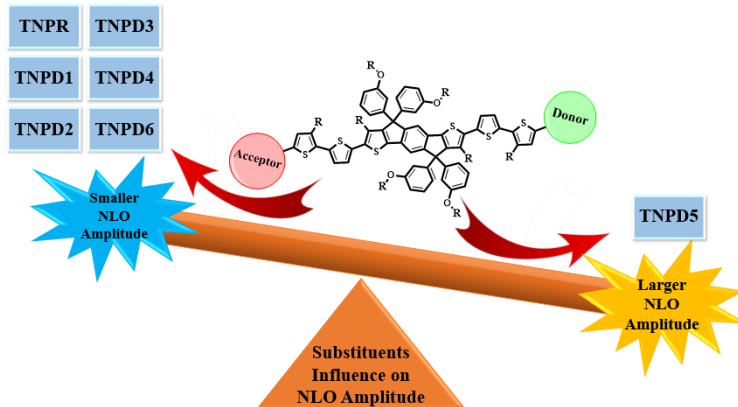
Organic chromophores possess desirable nonlinear optical (NLO) properties, making them useful in the fields of photonics and optoelectronics. Herein, a comprehensive approach was applied to examine electronic and structural parameters of the novel designed compounds *i.e.*, **MTPBR1** having A- $\pi$ -D- $\pi$ -A and **MTPBD2-MTPBD9** with D1- $\pi$ -D2- $\pi$ -A conformations. MPW1PW91/6-311G(d,p) functional was implied using DFT, TD-DFT approach with true minima to explore structural and electronic variables of engineered molecules. From quantum chemical computations, frontier molecular orbitals (FMOs) demonstrated highest  $\Delta E_{\text{gap}}$  value of 2.058 eV in **MTPBD4**. Concluding the above analyses, impressive NLO properties exhibited by all the novel compounds and specifically **MTPBD8** demonstrate their potential applications in advanced nonlinear optical devices.





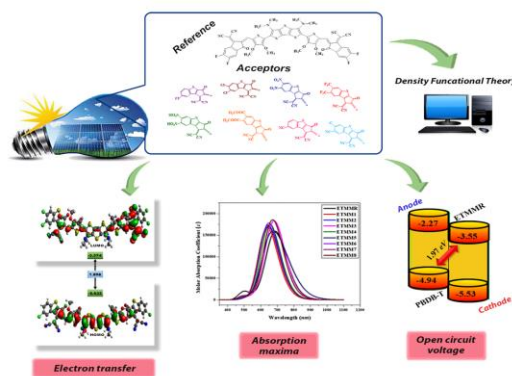
## Exploration of Nonlinear Optical Enhancement in Acceptor- $\pi$ -Donor Indacenodithiophene Based Derivatives via Structural Variations: A DFT Approach

The objective of this project is to incorporate various acceptor components and one donor component into the chemical structure of TNPR. Quantum chemical calculations were accomplished to examine electronic, structural and optical properties utilizing density functional theory (DFT) approach at M06 functional with 6-311G (d,p) basis set. Subsequently, natural bond orbitals (NBOs), density of states (DOS), frontier molecular orbitals (FMOs), transition density matrix (TDM) and non-linear optical (NLO) analyses were performed for TNPD1-TNPD6 as well as TNPR.



## Structural Tailoring via End-capped Acceptors of Thiophene-based C-shaped Non-fullerene Compounds with A- $\pi$ -A Framework for the Exploration of Photovoltaic Response

In the realm of organic solar cells (OSCs), non-fullerene-based electron acceptors like ETMM5 show exceptional potential for high-efficiency devices. Eight novel A- $\pi$ -A type non-fullerene acceptors (ETMM1-ETMM8) were designed theoretically, with ETMM5 displaying the lowest excitation energy (1.579 eV), binding energy (0.319 eV), and minimum HOMO/LUMO band gap (1.898 eV), making it a promising candidate for high-performance OSCs. This study highlights that modifying end-capped acceptors offers an effective approach to achieve desired optoelectronic properties.



## PRODUCTION OF 20 TON/DAY OF DIESEL BY DIRECT LIQUEFATION OF THAR COAL.

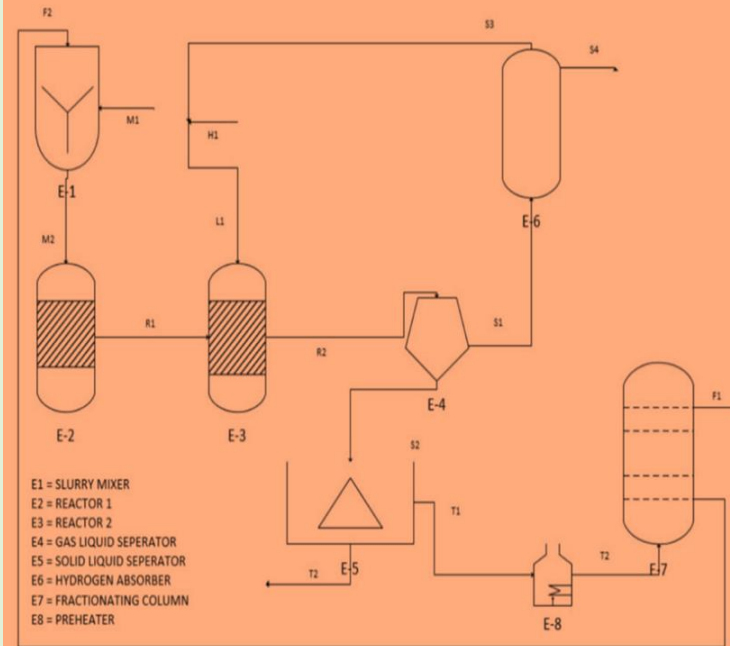
The aim of the project "Production of 20 ton/day of diesel by direct liquefaction of Thar coal" in Pakistan is likely to address the country's energy needs and reduce its dependence on imported petroleum products. Here are some of the specific aims and objectives of this project:

**Energy Security:** Pakistan aims to enhance its energy security by utilizing its domestic coal reserves to produce diesel.

**Utilization of Thar Coal:** Thar coal reserves in Pakistan are substantial and largely untapped. The project aims to develop technologies for the direct liquefaction of Thar coal into diesel, making the most of this indigenous energy resource.

**Environmental Benefits:** The direct liquefaction process may offer environmental advantages compared to traditional coal combustion.

**Job Creation and Economic Development:** Developing a coal-to-diesel industry can create job opportunities and boost economic growth in the region surrounding the Thar coalfields.





## 15000 MTA production of DMC through transesterification of propylene carbonate and methanol using CeCu catalyst

The project establishes an eco-friendly process for large-scale dimethyl carbonate (DMC) production via transesterification using a CeCu catalyst at moderate temperature and pressure conditions. DMC's diverse industrial applications make this synthesis route significant, ensuring efficiency and stability while promising a sustainable and economically viable production pathway. Optimization, economic analysis, and scalability assessments provide a robust foundation for large-scale implementation.



## Production of bioethanol from wheat straw

The "Production of 1000L/day Bioethanol from Wheat Straw" project aims to create a large-scale, eco-friendly process for bioethanol production using wheat straw as feedstock. By converting agricultural waste into renewable biofuel, the project contributes to sustainability, reducing greenhouse gas emissions and reliance on non-renewable resources. The key stages include pretreatment, enzymatic hydrolysis, fermentation, distillation, and dehydration, offering potential for significant contributions to the biofuel industry and a greener future.

**Production of Bioethanol from Wheat straw**

1. Bioethanol is a renewable and sustainable fuel derived from biomass sources like agricultural residues, municipal waste, and dedicated energy crops. Wheat straw, an abundant agricultural byproduct, offers a promising feedstock for bioethanol production due to its high cellulose and hemicellulose content.

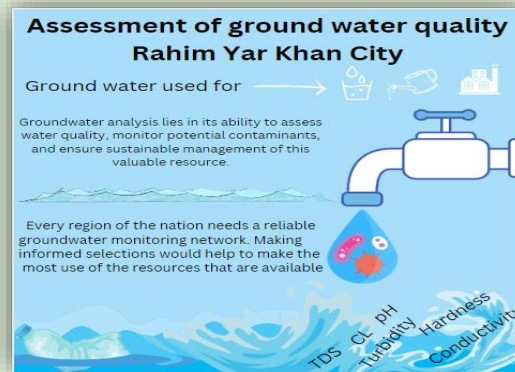
2. Pretreatment  
Hydrolysis  
Fermentation  
Separation

3. Production of bioethanol from wheat straw offers a promising solution to reduce our dependence on fossil fuels while utilizing agricultural waste. Advancements in technology and process optimization will continue to make bioethanol production more economically viable and environmentally friendly, contributing to a sustainable energy future.



## Assessment of Ground Water Quality of Rahim YarKhan City, Province Punjab, Pakistan

The Rahim Yar Khan District in Punjab, Pakistan, is an agricultural powerhouse facing water scarcity and pollution challenges. A study assessed groundwater parameters in multiple locations, revealing water quality concerns, such as high TDS, conductivity, and hardness, impacting areas like Gulshan Iqbal and Ittehad Garden. Effective measures are crucial to mitigate water issues and ensure clean and sustainable drinking water, supporting the district's development and agricultural productivity in Pakistan.



## Chemical treatment of waste blister packaging for the separation of Aluminum from plastic

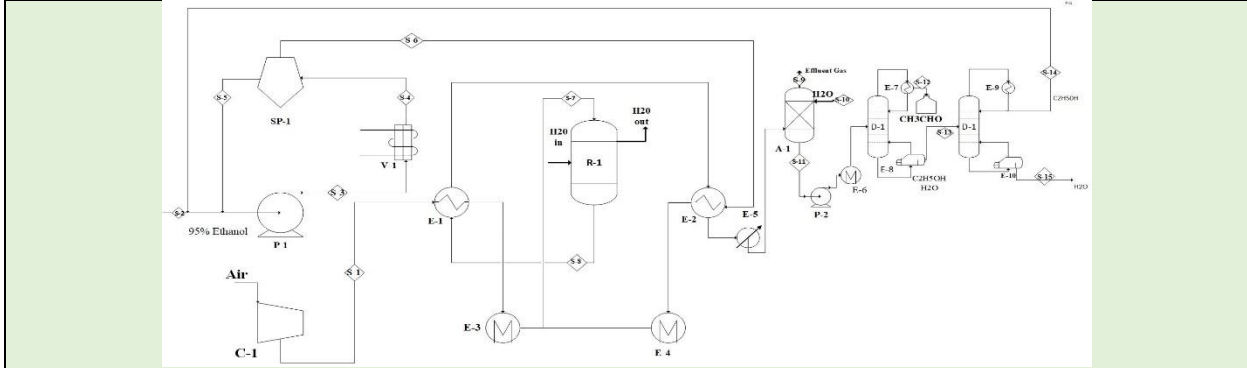
Pharmaceutical blisters, one of the main constituents of medical plastic wastes, make up the largest market sector for pharmaceutical packaging, and recycling them is important for improving hospital sustainability and lowering waste. Aluminum is a valuable material that can be recycled and reused, so separating it from the plastic allows for its recovery and potential reintegration into the manufacturing process.





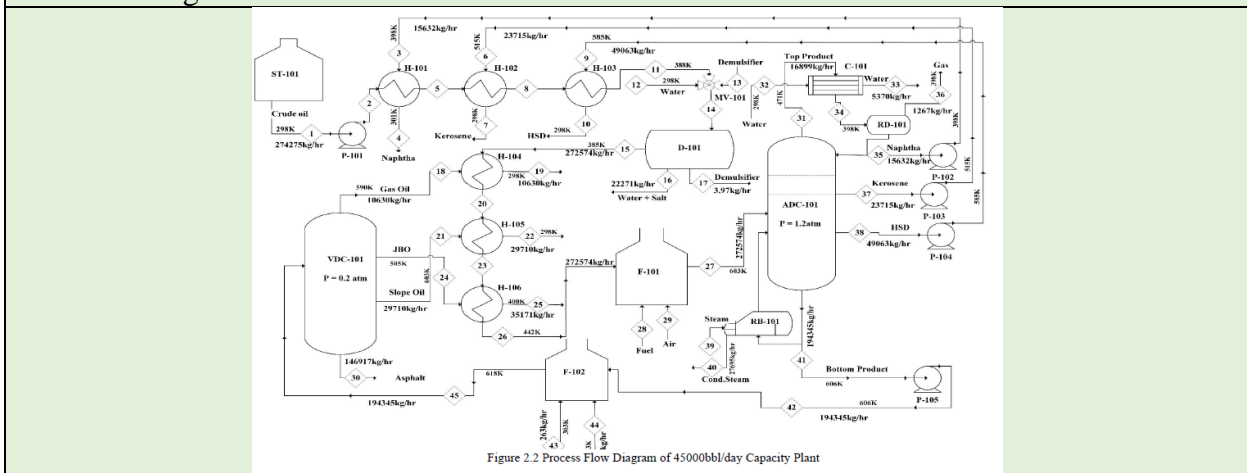
## Manufacturing of 5000 TPY acetaldehyde by air oxidation of ethanol

Acetaldehyde, also known as ethanal  $\text{CH}_3\text{CHO}$ , was first produced by Scheele in 1774 and is widely used in the production of other chemicals like Acetic acid and anhydride. The industrial method for its production is through air oxidation of ethanol using a catalyst Ag at 500-550°C and 3 atm pressure in a fixed bed catalytic reactor. The project emphasizes the importance of acetaldehyde, describes the production process, presents material & energy balance, equipment design, EIA, instrumentation & control, and concludes with an economic analysis of the plant.



## Design a 45,000 barrels per day capacity plant for the production of Naphtha, High Speed Diesel & Kerosene oil by using Atmospheric and Vacuum Distillation

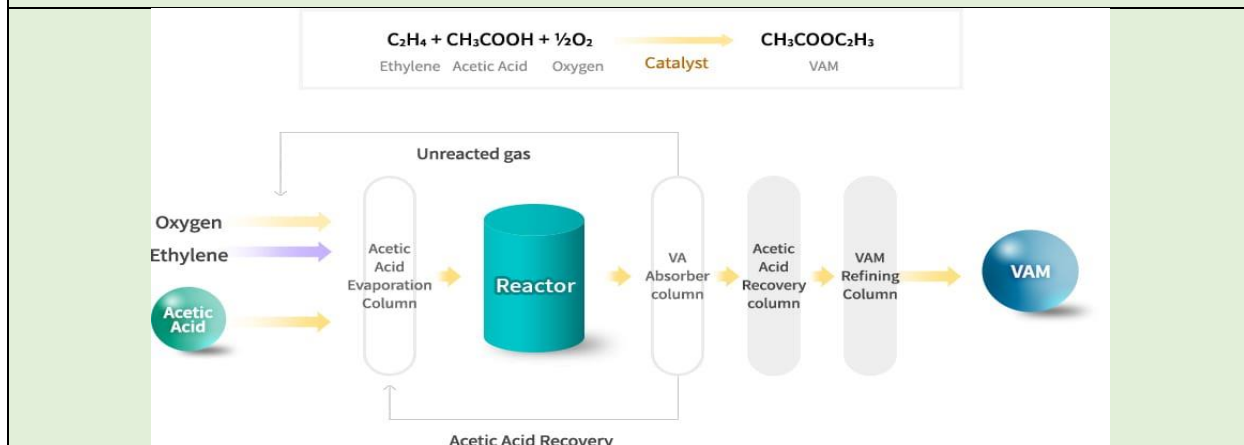
The project involves the production of 45,000 bbl/d oil products through Atmospheric and Vacuum Distillation of crude oil, efficiently separating Naphtha, Kerosene, Diesel fuel, slope oil, Gas oil, and jute batching oil based on their boiling points. The process involves distillation towers, vacuum generation for certain products, and pre-heating using shell and tube heat exchangers. The project includes material and energy balance, designing, instrumentation, process control, and detailed process analysis for Furnace, Distillation column, Desalters, and Heat Exchangers.





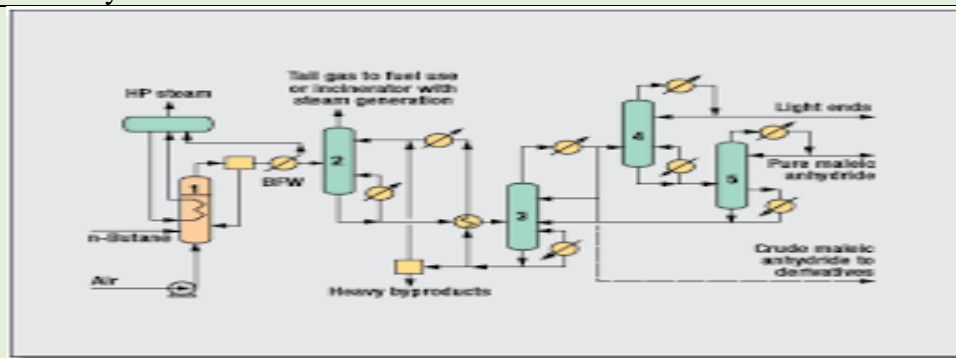
## Production of Vinyl Acetate Monomer

The Production of Vinyl Acetate Monomer (VAM) project aims to establish a state-of-the-art production facility in Pakistan, reducing import dependencies and promoting local economic development. This strategic initiative will transform the country's chemical industry, achieving self-sufficiency in VAM production, and contributing to sustainable industrial development, leading to a brighter and more prosperous future for Pakistan.



## Design project of 60,000 Metric ton/annually of Maleic anhydride by the oxidation of n-butane in a fixed bed multi-tubler reactor

The production of maleic anhydride from n-butane via oxidation in a fixed bed reactor is a vital industrial process with diverse applications. This process involves controlled oxidation using a vanadium pentoxide catalyst, ensuring high selectivity and yield. Heat management, reactant flow control, and reactor design play crucial roles in maintaining optimal conditions for the exothermic reaction. This method offers advantages such as cost-effectiveness and sustainable utilization of n-butane, a by-product of crude oil refining. The project entails experimental investigations and optimization studies to address challenges like catalyst deactivation, reactor fouling, and safety considerations.





## Constructed Wetlands for Wastewater Treatment

Constructed wetlands offer an environmentally friendly and cost-effective approach to treat domestic, industrial, or agricultural wastewater before discharge. These engineered systems mimic natural wetland processes to remove pollutants, including organics, pathogens, nutrients, heavy metals, and medicinal ingredients, improving water quality and promoting sustainability in wastewater treatment. The primary aim is to provide a natural and efficient method of purifying and treating wastewater, contributing to environmental conservation.

**Constructed Wetlands for wastewater**

**6 CLEAN WATER AND SANITATION**

**7 AFFORDABLE AND CLEAN ENERGY**

**11 SUSTAINABLE CITIES AND COMMUNITIES**

CWs are wastewater treatment systems engineered to utilize the natural process and interactions of wetland vegetation, bacteria and substrate in a more accurate and controlled environment to improve the quality of water.

## IOT/ GSM Based Forest Protection System for Green Community

This project is helpful in the detection of the forest fire and the illegal cutting of trees. This project uses the wireless nodes which are supportive for communication in forest and no need for the wiring in between the trees. By utilizing the IOT technology the detection of forest fire is easy and much reliable and no distortion between the signals.

KHWAJA FAREED **UEIT** Electrical and Biomedical Engineering  
RAHIM YAR KHAN

### IOT AND GSM BASED FOREST PROTECTION AND MONITORING SYSTEM

**Introduction**

The proposed system mainly focuses on building a forest protection system using an Arduino microcontroller which is connected to a temperature sensor, fire detector, sound sensor, motion sensor and vibration sensor. Using the GSM module, the location is sent via an SMS in the form of a link. As they can play a major part in restoring the earth's climate and reducing global warming and other issues, there has to be some form of system to protect forests. SMS warning just as a notice on the portable utilization of the cell phone users.

**Design Methodology**

**Application**

- Protection of Forest Fire
- Real time monitoring of the forest environment
- Prevention
- Illegal forest logging detection
- Aggressive monitoring and protection from theft

**Group Members**

Asif Faeed	ELEN-WITHING
Muhammad Subair	ELEN-WITHING
Sulayman Ahmad	ELEN-WITHING

**Supervisor**

Engr. Arshad Hossain



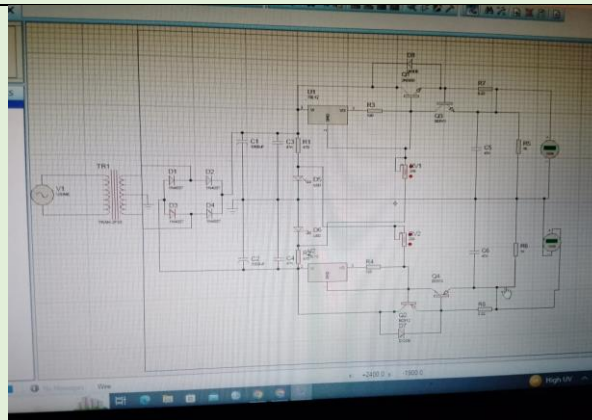
## Development of Nanofluid Based Vegetable Oil for Power Transformer

This research project aimed to explore the potential of Nanofluids based on vegetable oil as an alternative to mineral oil (MO) in power transformers. Nanofluids based on vegetable oil exhibited improved thermal stability and a higher flash point compared to MO, making them a promising option for coolant and insulation. Power transformers using Nanofluids showed enhanced efficiency and stability under various conditions, indicating their potential to improve performance and safety in the industry. The development of Nanofluids based on vegetable oil represents a significant step towards a more sustainable and eco-friendly power transformers industry.



## Development of Dual Mode Power Supply(30V,5A)

A dual-mode power supply with 30V 5A output is a type of power supply that can provide two different output voltages of 30V and 5A each. The most common configuration provides two different positive DC voltage outputs, but it is also possible to have two equal magnitude and opposite polarity DC voltage outputs.







## Close loop speed control of three phase induction motor

The features of induction motor (IM) such as higher reliability, self-starting, higher power to weight ratio, and low cost made it more popular in industrial applications. Due to non-linearity and complexity, the speed control of IM is an interesting topic in industries. The speed control of the IM is achieved by using SPWM and closed-loop v/f control techniques. When voltage and frequency vary, then speed also varies. The closed-loop control system takes care of the steady state and transient performance of the IM drive system during modification in speed without and with the loaded condition.



### Close loop speed control of three phase induction motor

#### Introduction

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#### METHODOLOGY

- The complete circuit consist of power supply, driver circuit, hexa-bridge circuit, controller circuit, LCD display, keypad, hall effect sensor and three phase induction motor.
- Power supply is used to fed DC power to our circuits and small LEDs that indicates the presence of power.
- Driver circuit is used to provide voltage difference to drive our MOSFET.
- Hexa-bridge circuit is used to operate motor.
- Controller circuits are used for interlinking of signals with LCD, keypad.
- Hall effect sensor is used for speed measurement and feedback purpose.
- Keypad is used to adjust motor speed according to our requirement.
- LCD is used to display the speed.

#### Schematic/Circuit Diagram



#### Result



#### Applications

Three-phase induction motors are used for commercial and industrial purposes, ideal for higher-power applications.

- Lifts
- Cranes
- Crushers
- Drilling machines
- Oil extracting



#### Group Members:

Muhammad Hassan  
Aiman Sajjad  
Abdul Salam

(ELEN19111001)  
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(ELEN-19111042)

#### Supervisor:

Engr. Fazal Ur Rehman

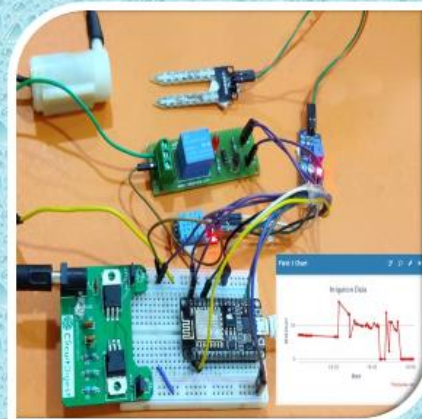


## IoT Based Agriculture Farm Automation with Smart Irrigation and Fertigation

The "IoT Based Agriculture Farm Automation with Smart Irrigation and Fertigation" project employs IoT devices and sensors to gather real-time data on soil moisture, nitrogen, phosphorus and potassium levels throughout the farm. This data is transmitted to a central system, enabling smart irrigation and precise fertigation processes. By leveraging advanced analytics and machine learning, the system optimizes water usage and fertilizer delivery, resulting in increased crop yield and resource efficiency. Through a user-friendly mobile/web application, farmers can remotely monitor and control the entire system, ensuring timely interventions and enabling sustainable and effective agricultural practices.

### *IoT Based Agriculture Farm Automation with Smart Irrigation and Fertigation*

- Revolutionize Farming with IoT Technology
- Save Water, Save the Future
- Grow Smart, Grow Strong
- Optimize Resources, Maximize Returns
- Maximize Crop Yield with Smart Irrigation
- Precision Fertigation for Healthier Plants
- Sustainable Agriculture, Smarter Future





## Development of IoT-based Automatic Firefighting Machine

The goal of this project is to improve fire safety in urban areas by developing and deploying an IoT-based autonomous firefighting system that combines sensors, actuators, and a central control unit. The system accomplishes real-time fire detection, data processing, and effective suppression operations using IoT technology, greatly cutting reaction times and minimizing damages. The project's successful completion proves the viability and efficacy of the IoT-driven approach to fire avoidance and reduction, opening the path for further developments in smart cities and the security of vital infrastructure. The results highlight the project's importance in enhancing urban resilience and safeguarding lives and property and add to the increasing body of knowledge in IoT applications for fire safety.

## Development of Iot-based Automatic Firefighting Machine



This initiative uses IoT technology to improve fire safety procedures, which is in line with the of Industry, Innovation, and Infrastructure. Implementing an IoT-based autonomous firefighting system demonstrates improvements in infrastructure innovation and resilience, resulting in safer urban environments and safeguarding important assets.

By creating an IoT-based firefighting system that improves fire safety measures, lowers risks, and fosters urban resilience, this project directly contributes to the Sustainable Cities and Communities. Integrating cutting-edge technologies helps build communities that are safer and more sustainable, protecting people's lives and property in urban settings.

KFUEIT is working in providing essential guidance, resources and support in making, developing and deploying such projects to make the communities more safer and more sustainable.



## Solar Based TDS Control of Water Through Electrolysis

The project "Solar-Based TDS Control of Water Through Electrolysis" aims to use solar energy to power an electrolysis system that reduces Total Dissolved Solids (TDS) in water. This sustainable and cost-effective approach improves water quality, making it safer for consumption and various applications. The system employs TDS monitoring to optimize the electrolysis process and is designed to be scalable and adaptable for domestic, industrial, and agricultural use, offering an eco-friendly solution to water quality challenges



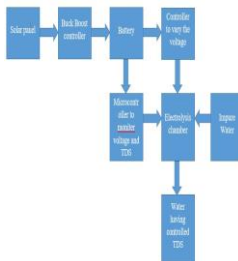
### SOLAR BASED TDS CONTROL OF WATER THROUGH ELECTROLYSIS

#### INTRODUCTION

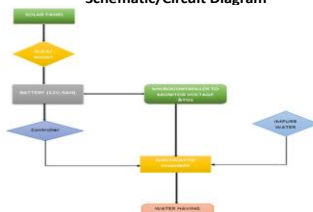
The main purpose of the project is to use sunlight to electrolyze water, reducing dissolved substances. Improves water quality sustainably. Suitable for various applications, ensuring optimal water conditions.

#### METHODOLOGY/FLOW CHART

- Utilize a charge controller to regulate and optimize the energy flow from the solar panel to a battery for storage.
- Store the electrical energy in the battery for later use.
- Voltage divider circuit is used to vary the voltage of electrolytic chamber
- Electrolyzer is to perform electrolysis, splitting water molecules into hydrogen and oxygen gases.
- Implement sensors or probes to measure the TDS levels in the water.
- Develop a control circuit to analyze TDS data and adjust the electrolysis process accordingly.

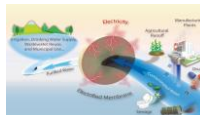


#### Schematic/Circuit Diagram



#### APPLICATIONS

- ✓ Water treatment plants for controlling TDS levels in drinking water.
- ✓ Agricultural irrigation systems to maintain optimal TDS levels for crop growth.
- ✓ Industrial processes that require precise control of TDS in water, such as manufacturing and chemical industries.



- ✓ Research laboratories and educational institutions for experimentation and study of water quality parameters.
- ✓ Sustainable development projects in remote areas with limited access to clean water sources.

#### GROUP MEMBERS:

- Manzar Iqbal ELEN 19111100
- Uzair Ahmad ELEN 19111102
- Junaid Akber ELEN 19111079

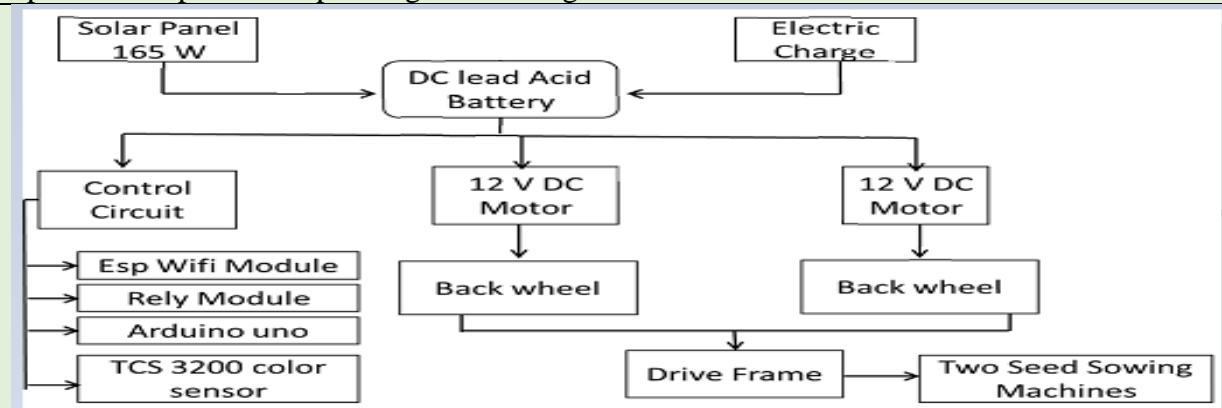
#### SUPERVISOR:

Engr. Arslan Hassan



## Development of IOT Based Seed Sowing Machine

The aim of an IOT-Based seed sowing Machine is to modernize and optimize traditional seed planting practices in agriculture. By leveraging IOT Technology and data analytics, these machines empower farmers to achieve precision, sustainability, and productivity in their farming endeavors, ultimately contributing to a more resilient and sustainable agriculture sector. one such innovation is the IOT-Based Sowing machine which combine cutting-edge technologies to optimize the process of planting seeds in Agricultural fields.





## Design and Electrification of a Commercial Building

Electrical wiring in a building constitutes a crucial network of conductors and cables that facilitates the safe and efficient distribution of electrical power throughout the structure. It begins at the electrical service entrance, where the building connects to the public grid, and extends to the main distribution panel, housing circuit breakers or fuses that safeguard individual circuits. Branch circuits then branch out, delivering power to specific areas and appliances within the building through outlets and switches. Proper grounding ensures electrical safety, and lighting fixtures illuminate various spaces. The system complies with electrical codes and regulations, guaranteeing the well-being of occupants. The convenience and versatility of electrical wiring enable the operation of appliances, lighting systems, communication networks, and advanced technologies, significantly enhancing our standard of living and supporting economic growth.

**DESIGN AND ELECTRIFICATION OF A COMMERCIAL BUILDING**

- 7 AFFORDABLE AND CLEAN ENERGY**  
Affordable and Clean Energy - By ensuring proper electrical wiring and promoting energy-efficient practices, buildings can contribute to providing affordable and clean energy for residents and businesses.
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**  
Industry, Innovation, and Infrastructure - Electrical wiring is a critical component of modern infrastructure and supports technological innovation in various industries.
- 11 SUSTAINABLE CITIES AND COMMUNITIES**  
Sustainable Cities and Communities - Proper electrical wiring in buildings is essential for creating sustainable and resilient cities, ensuring access to reliable electricity for urban residents.
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION**  
Responsible Consumption and Production - By adopting energy-efficient electrical wiring practices, buildings can reduce electricity consumption and contribute to responsible energy usage.



## RFID Card Based campus management system

The objective of the project report is to cast light on the RFID-based entry system and its transformative effect on access control. By utilizing the potential of RFID technology, organizations can establish a secure, convenient, and effective entry management system. The subsequent sections of this report will delve into the system's implementation, performance evaluation, and future enhancements, providing a comprehensive comprehension of the capabilities and potential of the RFID-based entry system.

### Rfid Card Based Campus Management System

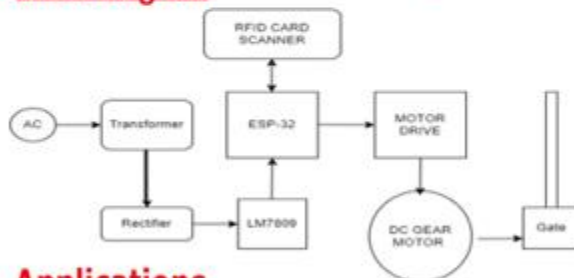
#### Introduction

The main objective of our project is to make and implement an efficient RFID based campus management system. The RFID campus management system is one of the useful systems that makes the life easier and time saving. These system is fast with the help of RFID module.

#### Methodology

- Literature review.
- Project designing
- Programming
- Testing and decoding
- Project Finalising
- Problem statement.
- Hardware assembling.
- Database creation
- Modification
- Project report.

#### Block diagram



#### Applications

- Proper organized attendance management.
- Library management.
- Secure Entry management system.
- Entry and exit time record system.





## Decentralized DC microgrid

The main purpose of this project is to provide electricity to small loads, remote areas and villages by utilizing Renewable Energy Sources i.e., Solar energy and Wind turbine. It consists of buck converters connected in parallel and control system. For precise and fast control, PI controller scheme is used. Through microgrid technology large complex circuit is reduced to small parts of individual energy provider. This project promotes utilization of green energy and providing electricity to remote areas. Overall cost of energy will also reduce and new job opportunities may arise. This project promises self-sustained societies and economic development.

### DECENTRALIZED DC MICROGRID

**Decentralized DC microgrids designed to provide power to specific areas, such as remote villages or individual buildings, without relying on a centralized power source.**

- Affordable and clean energy
- Decent work and economic growth
- Industry, innovation and infrastructure
- Sustainable cities and communities
- Responsible consumption and production

**Decentralized DC microgrids incorporate renewable energy sources, such as solar or wind power, and can continue to provide power during emergencies or natural disasters. Decentralized DC microgrids have the potential to increase energy efficiency, reduce costs, and improve reliability.**

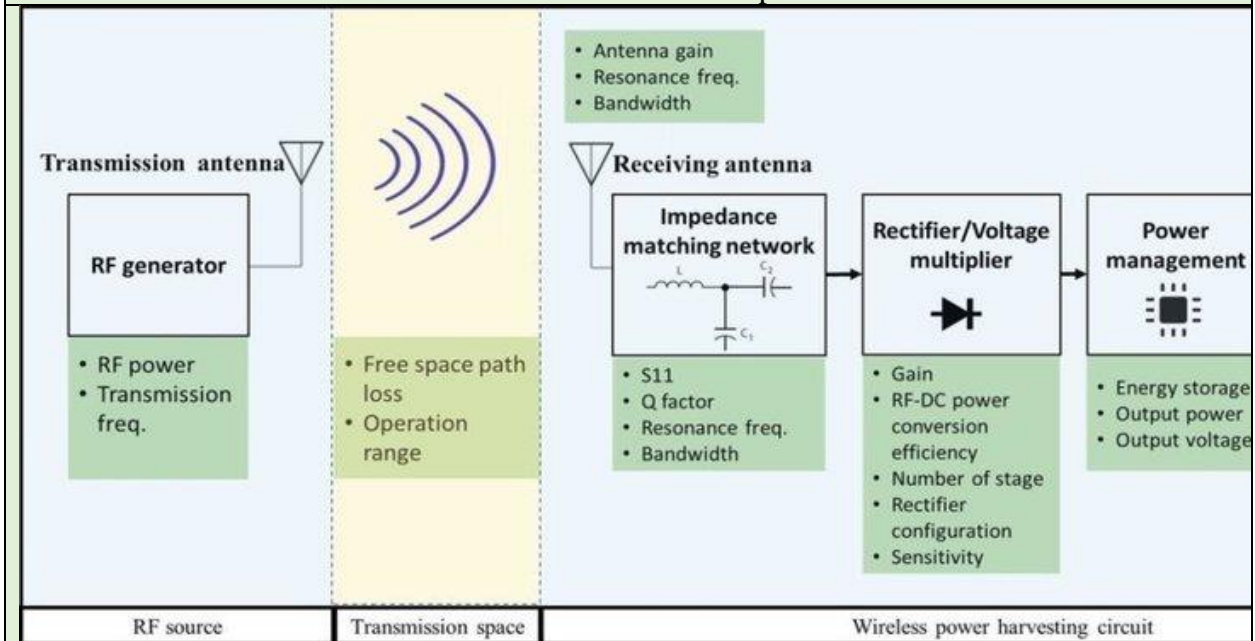






## DESIGN OF 2x2 ARRAY ANTENNA FOR RF ENERGY HARVESTING

RF energy harvester is a technology that captures and converts radio frequency (RF) signals from various wireless sources, such as Wi-Fi, cellular, and broadcast transmissions, into usable electrical power. It utilizes antennas and rectifiers to harvest energy from the surrounding RF environment, providing a potential solution for powering low-power electronic devices and sensors without the need for traditional batteries or wired power sources.





## IoT Based Automatic Solar Lawn Mower

We have proposed an IoT based auto solar lawn mower with sensors and driven by the control of mobile App. through Wi.Fi control

**IoT Based Automatic Solar Lawn Mower**  
(Final Year Design Project)

**Block Diagram:** A central 'Raspberry Pi' block is connected to 'Solar Panel', 'Charge Controller', 'Battery', and 'Mobile App' on the left. On the right, it connects to 'Motor Driver', 'Motor 1', 'Motor 2', 'Motor 3', 'Motor 4', and 'Auto lawn mower'.

**Team Members:**

Wahid Ali	20211011001
Wajid shahid	20211011002
Yasman shahid	20211011004

**Supervisor:**  
Eng. Asad Hussain

**PROJECT 2023**

## Wireless Power Charger

The groundbreaking technology of WPT (wireless power transfer) allows electrical energy to be transmitted to electronic gadgets without the use of wires. With this novel method, a wide variety of products, including as smartphones, electric motor vehicles, implants for medicine, and IoT gadgets, may be charged or powered in a more streamlined and efficient manner. WPT is based on the idea that energy can be transferred from a transmitter to a receiver via



electromagnetic fields. Magnetic induction & resonance coupling are fundamental to this procedure. When the electromagnetic field around the transmitter begins to oscillate, it induces a current in the coil of the receiving device. The device is either directly powered by the received current or its batteries are charged by the current. Because near-field magnetic coupling allows power to be transferred efficiently and reliably without the need for a clear line of sight between the transmitter and the receiver, the wireless power transfer methods based on this principle have a lot of appeal.

**Wireless Power Charger Introduction**

The groundbreaking technology of WPT (wireless power transfer) is the ideal way to be transmitted to electronic products, including as smartphones, electric bikes, vehicles, implants for medicine, and for wireless charging or powered in a more streamlined and efficient manner.

**Design Methodology**

**In Transmitter Section:**

Input AC → Rectifier Circuit → Inverter Circuit → (Primary Coil)

**In Receiver Section:**

(Secondary coil) → Rectification and filter Circuit → Regulator → Output

- > This project is built upon using an electronic circuit which converts AC 230 V 50Hz to AC 12 V High frequency.
- > The output is fed to a tuned coil forming a primary of an air core transformer.
- > The secondary coil develops a voltage of 12 volt.

**Results**

**Applications**

- Electric Vehicle Charging
- Public Transportation
- Autonomous Vehicles
- Industrial Applications
- Wearable Devices
- Consumer Electronics

**Supervisor:** Engr. Asad Saeed

**Group members:**

- Saif-ud-Aleem (UEEN191111051)
- Muhammad Akbar (UEEN191111008)
- Muhammad Bilal Ahmad (UEEN191111003)



## Smart and Hybrid Energy Management System based on Solar and Wind for Integrated Grid

We utilize solar energy and wind energy by using solar panel and wind turbine respectively. We use boost and buck-boost converter to regulate the voltage of wind turbine and solar panel respectively. We charge the battery and use battery cut off circuit for the safety of low voltage and over voltage protection. And convert DC into AC by using Inverter and powered the Load.

### *SMART HYBRID ENERGY MANAGEMENT SYSTEM BASED ON SOLAR AND WIND FOR INTEGRATED GRID*



#### Introduction

In this project, a hybrid and effective system for harnessing power is suggested based on a combination of solar and wind energy power generation systems with integrated grid to ensure continuous power supply in case when both renewable energy sources can't meet our needs.

#### METHODOLOGY

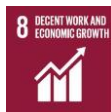
- Voltage of Solar Panel and Wind Turbine are regulated by boost and buck-boost converter.
- Battery is charged by output received from buck-boost converter.
- The auxiliary power from buck-boost converter is converted to AC power by using inverter.
- The AC power from inverter and grid are synched by the synchronizer and are provided to load.



## **IOT based fault detection of three phase transmission line by using Impedance relay**

In this project we understand protection of power system and transmission along with the analysis of our proposed model in a better way. The adopted technique, method of work and configuration along with the working of components. As the location of fault is changes then length of conductor change accordingly which change the resistance of transmission line as a result of this changes occur in fault current also. So, calibration of fault current to find the location of fault in overhead transmission line is done. Results of simulations of the transmission line fault detection system for overhead transmission line. During the normal condition LCD display no fault in the system. Whenever any type of fault occurs at any location firstly LCD display fault type with alarm for alert then after delay of few seconds it display in which line fault occurred with providing the distance of the faults from the starting of transmission line.

### IOT based, fault detection of three phase transmission line by impedance relay



#### Introduction

An overhead transmission line is one of the main component in every electric power system. The transmission line is exposed to the environment and the possibility of the experiencing faults. Those are single line-ground, line-line, double line-ground and three phase faults.

#### Methodology

- Collect information about types of fault in transmission line.
- Current sensors are used for the detection of over current fault.
- Relays are used for the tripping of the circuit.
- Microcontroller (ESP-32) is used for the master control.
- GPS module receive data from microcontroller and send it to control room.



## Multiparameter patients monitoring device

A “multiparameter patient monitoring device” have the capacity to offer intelligent diagnosis based on precise real-time physiological parameter analysis. This project employs sensors to gather real-time data of patient. This data is transmitted to a controller, enabling real-time data monitoring of patient. In design considerations for our patient monitoring device, including Electrocardiograms (ECG), SpO2, Blood pressure, Body temperature and Heart rate.

## Multiparameter Patient Monitoring System



A robust medical monitoring device should be able to provide intelligent diagnosis based on accurate analysis of physiological parameters in real-time. At the same time, such device must be able to adapt to the characteristics of a specific patient and desired diagnostic needs, and continue to operate even in presence of unexpected artifacts and accidental errors.





## Plantation and Cleanliness Drive of Clean Pakistan Campaign

Khwaja Fared University of Engineering and Information Technology (KFUEIT) took a proactive step towards fostering environmental consciousness and community engagement by organizing a "Plantation and Cleanliness Drive" as part of the Clean Pakistan Campaign. The event aimed to contribute to a greener and cleaner environment by promoting the importance of planting trees and maintaining cleanliness in public spaces. Students, faculty, and staff came together to plant saplings in designated areas and actively participate in cleaning up nearby streets and parks. Through this collective effort, KFUEIT demonstrated its commitment to sustainable practices and social responsibility, inspiring others to take similar actions for a cleaner and greener Pakistan.

**02 May, 2023**

### PLANTATION AND CLEANLINESS DRIVE OF CLEAN PAKISTAN CAMPAIGN

"Cleanliness is Next to Godliness"

**Organized by:**  
**Department of Life Sciences**

Khwaja Fared University of Engineering and Information Technology, Rahimyar Khan



KHWAJA FAREED

**UEIT**

RAHIM YAR KHAN

# Education and Research

## **An awareness campaign towards solutions to clean environment from hazardous microbes through proper disposal of Dead Animals**

The aim of the project is to develop a community who may understand, learn and further deliver this issue and environment of the country may be saved from emerging pandemics and flaws in biodiversity. By utilizing solution techniques such as awareness campaigns, interviews, site visits and further to search techniques like remote sensing. the application will assist in creating information if anywhere dead animals are thrown in the environment. This initiative seeks to promote healthy environment for birds and humans as well. Through the integration of this scientific research and practical application, the project strives to contribute to the overall sustainability of environment and address the challenges associated with dead animals and hazardous microbes and birds' population at threat.

## **An Awareness Campaign Towards Solution to Clean Environment from Hazardous Microbes Through Proper Disposal of Dead Animals**





## World Wild life Day Campaign

The "World Wildlife Day Campaign" organized by KFUEIT is a powerful initiative aimed at raising awareness and promoting conservation efforts for wildlife protection. Through various activities such as educational workshops, seminars, and interactive events, the campaign aims to highlight the importance of preserving biodiversity and safeguarding the natural habitats of endangered species. By engaging students, faculty, and the community, KFUEIT strives to instill a sense of responsibility and commitment to protecting wildlife, contributing to a more sustainable and harmonious coexistence with nature.



KHWAJA FAREED  
**UEIT**  
RAHIM YAR KHAN

# WORLD WILDLIFE DAY




3<sup>RD</sup> MARCH 2023





## IoT-based Emergency Ventilator and Patient Monitoring System


The IoT-based Emergency Ventilator and Patient Monitoring System project successfully developed an affordable and scalable solution to address the critical shortage of ventilators during the COVID-19 pandemic and beyond. The system integrated IoT technology for remote monitoring and control, providing real-time patient data transmission. The project's methodology ensured reliability and accuracy, making it a valuable addition to healthcare facilities worldwide.



**Institute of Physics**  
**Khwaja Fared University of Engineering & Information Technology, RYK**

### Emergency Ventilator and Patient Monitoring System

The "Emergency Ventilator and Health Monitoring System" redefines patient care through remote monitoring. Our innovative system enables real-time access to vital signs globally via a user-friendly mobile app. With continuous tracking of pulse rate, oxygen level, and body temperature, healthcare providers can intervene promptly. Historical data analysis empowers informed decision-making, while an integrated oxygen chamber and automatic pump ensure swift emergency response. Experience the future of healthcare with our prototype model, offering seamless remote monitoring and improved patient outcomes.



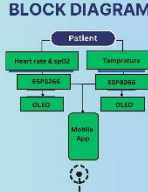
#### KEY FEATURES

- Remote Monitoring:**
  - Monitor patient's globally through a mobile application.
  - Always connected and informed from any location.
- Vital Sign Monitoring:**
  - Continuous tracking of key vital indicators.
  - Pulse Rate: Monitor heart rate for early detection of complications.
  - Oxygen Level: Ensure adequate oxygen saturation in the blood.
  - Body Temperature: Track body temperature changes for fever detection.
- Historical Data:**
  - Access patient data for the past 7 days.
  - Alerts: Receive real-time alerts for abnormal detection.
- Oxygen Chamber:**
  - Integrate oxygen chamber for emergency situations.
  - Provide additional oxygen support when needed.
- Automatic Oxygen Pump:**
  - Respond to critical conditions automatically.
  - Increase oxygen delivery without delay.


#### BENEFITS

- Real-Time Monitoring:**
  - Stay updated on the patient's real-time status anywhere, anytime.
  - Reduce risk and improve response time.
- Early Warning System:**
  - Receive instant alerts for critical conditions.
  - Preemptive action to prevent emergencies.
- Enhanced Safety:**
  - Continuous monitoring minimizes risks and complications.
  - Ensures patient safety and well-being.
- Data Analysis:**
  - Utilize historical data for analysis and insights.
  - Identify patterns, trends, and potential risks.
- Easy-to-Use Interface:**
  - Intuitive design for seamless navigation.
  - User-friendly design for seamless navigation.

#### BLOCK DIAGRAM



#### APPLICATION UI



#### COMPARISON TABLE

PROJECTS	IoT	Remote	Real-time	Alerts	History
Project 1	✓	✓	✓	✓	✓
Project 2	✓	✓	✓	✓	✓
Project 3	✓	✓	✓	✓	✓
Project 4	✓	✓	✓	✓	✓
Project 5	✓	✓	✓	✓	✓
Project 6	✓	✓	✓	✓	✓
Project 7	✓	✓	✓	✓	✓
Project 8	✓	✓	✓	✓	✓
Project 9	✓	✓	✓	✓	✓
Project 10	✓	✓	✓	✓	✓

#### CONCLUSIONS

- Evaluate the project's contribution to advancing healthcare technology.
- Highlight the potential for future research in improving patient care.

**Instructor:**  
Dr. Muhammad Bilal Tabli

**Group members:**

- Ushaq Gul, Phys1911144
- Hira Tabli, Phys1911139
- Quratulain, Phys19111047



## Design of Bladeless Fan for Commercial Applications

Unlike the usual fans, Bladeless fans are the newest trend in the industry for commercial applications. The bladeless ones consume very little energy. We are going to design a bladeless Fan to overcome the Industrial application, safety considerations and noise problem which are in normal table fan and pedestal fan. This fan has blades which are not visible and is relatively better in all relative aspects such as wind speed, distribution of air and safety. It multiplies the volume in taken air automatically into 15 times because we are implementing Bernoulli's Principle. If we compare it with the normal table fan and pedestal fan, we conclude that this type of fan can because in future efficiently with less sound and more safety as compared to normal table fan.





## **Chemical handling glove box by using vacuum gas /inert gas/argon gas)**

chemical glove boxes are a piece of equipment offering an important level of safety to protect the environment, the operator and the chemical products and the substances handled. This device is a hermetically sealed enclosure allowing users to work with a highly sensitive or dangerous sample in the ambient air. Chemical-resistant gloves protect the hands against various substances that vary in danger. Wearing chemical resistant gloves help fend against cuts, burns, extreme heat, abrasions, chemicals, and other harmful substances





## IoT VitalSigns: A Comprehensive Patient Health Monitoring System

The IoT VitalSigns project aims to develop a cutting-edge patient health monitoring system using Internet of Things (IoT) technology. This system will revolutionize the way healthcare professionals monitor and manage the health of their patients by providing real-time and comprehensive data on vital signs. The system will consist of various interconnected IoT devices, including wearable sensors, mobile applications, and cloud-based analytics platforms. These devices will seamlessly collect and transmit vital sign data such as heart rate, oxygen saturation and body temperature to a centralized database. One of the key features of IoT VitalSigns is its wearable sensors. These small, non-invasive devices will be worn by patients and will continuously monitor their vital signs. The sensors will use advanced technologies like photographically, electrocardiography, and infrared sensors to accurately capture and analyze the data. The sensors will be designed to be comfortable, lightweight, and user-friendly, ensuring that patients can wear them for extended periods without any discomfort.

**Final Year Project Exhibition-2023**

 **INSTITUTE OF PHYSICS**

**IoT VitalSigns: A Comprehensive Patient Health Monitoring System**

**Abstract:**  
Healthcare is given the extreme importance now a days by each country with the advent of the novel corona virus. So in this aspect, an IoT based health monitoring system is the best solution for such an epidemic. In the recent development of Internet of Things (IoT) makes all objects interconnected and it has been recognized as the next technical revolution. The application of IoT in healthcare to monitor the patient health status Internet of Things makes medical equipment's more efficient by allowing real time monitoring of patient health, in which sensor acquire data of patient's and reduces the human error.

**Block Diagram:**  


**Objectives:**  
Overall, the objectives of an IoT-based patient health monitoring system are to improve patient outcomes, enhance patient safety, and reduce healthcare costs by enabling real-time monitoring, early detection of health issues, and remote monitoring.

**Novelty:**  
**Panic Button:** A panic button is a security feature made to swiftly call for help in an emergency. A digital or physical button that, when hit, immediately transmits an alert to a predetermined group of people or rescue services in the conventional form. Panic buttons can be used in a variety of areas, including homes, offices, schools, or public areas.

**Applications:**  


**Conclusions:**  
In conclusion, an IoT-based patient health monitoring system is a powerful tool that can improve patient outcomes, enhance patient safety, and reduce healthcare costs. This system utilizes Internet of things (IoT) technology to remotely monitor patients' vital signs in real-time, enabling healthcare providers to identify potential health issues early on and take appropriate action quickly.

**Supervisor:**  
**Dr. M. Bilal Tahir**

**Group Members:**

<b>Zohrab Anjum</b> (PHTS1911046)	<b>Iqra Akhter</b> (PHTS19111054)	<b>Saima Sabir</b> (PHTS1911075)	<b>Gul Ahmad</b> (PHTS19111038)
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Khawaja Fareed University of Engineering & Information Technology  
Rahim Yar Khan

**Departmental Doctor Dissertation 2023**



## AIRINK- Transforming Air pollution into sustainable Ink Production

This project explored the possibility of producing ink from air pollution by using soot collected from Electrostatic Precipitators (ESP)-based soot collectors. The collected soot was mixed with chemicals and binders to create ink. The results showed that the produced ink had good printability and inkjet performance. This innovative approach offers a sustainable solution to air pollution, minimizing waste and contributing to environmental conservation. However, further research is needed to optimize the production process, assess environmental impact, and evaluate commercial viability. Overall, the project demonstrates a promising method for eco-friendly ink production from air pollution.

**Institute of Physics**  
FYF 2019-2023

### Ink Production from Air Pollution

Supervisor: Dr. Muhammad Bilal Yaqub

**Air Pollution**  
Air pollution is one of the most serious threats to both human health and the environment. It can lead to respiratory diseases, heart diseases, and even cancer. It can also harm wildlife, crops, and ecosystems. Air pollution is caused by various sources, including transportation, industrial activities, and burning of fossil fuels. Reducing air pollution is crucial for maintaining public health and protecting the environment.

**Impacts of Diesel Burning**  
Diesel burning is a major contributor to air pollution and has been linked to several respiratory problems. It releases fine particulate matter and nitrogen oxides, which can cause or exacerbate asthma, bronchitis, and other respiratory ailments. It is important to find ways to control diesel emissions and reduce their impact on public health.

**ESP Based Soot Collector**  
In this research, the reusable ESP based soot collector is shown that can effectively filter out soot particles such as soot and ash from the exhaust gas of diesel engines. In our project, we have designed and used an ESP based soot collector to collect soot particles from the exhaust of a diesel generator. The collected soot is then processed and used to produce ink.

**Working**  
The ESP based soot collector works by using electrostatic attraction to remove soot particles from the air. The process involves passing the air through a collecting zone with a high voltage electrical discharge. The soot particles are then charged and attracted to the oppositely charged collecting plate. The charged soot particles then settle on the collecting plate and can be removed for the production.

**Ink Production**  
The ink-making process involves several key ingredients, including soot, carbon, other colorants, and an ink binder. The soot particles are mixed with these ingredients to create the ink. The ink is then tested for its printability and inkjet performance. The ink produced from this collection can be used as a more sustainable alternative to traditional ink, which often contains non-renewable materials. By promoting the use of sustainable materials in the ink industry, our project can help reduce the overall carbon footprint of printing industry.

**Environment Sustainability and Reducing Carbon Footprint**  
By using the soot collected from diesel engines, we can reduce the amount of harmful particulate matter released into the atmosphere, which contributes to air pollution and numerous respiratory diseases. The ink produced from this collection can be used as a more sustainable alternative to traditional ink, which often contains non-renewable materials. By promoting the use of sustainable materials in the ink industry, our project can help reduce the overall carbon footprint of printing industry.



## Process flow design of thermo-chemical conversion of animal waste in a gasifier assembly plant


Almost 62.2% of people are living in the rural areas of Pakistan. The government of Pakistan isn't providing the facilities of using natural gas to rural people. The people are using firewood for cooking purposes. This is the waste of natural resources. Also, it causes pollution. We are using animal waste/dung to produce natural gas for the cooking purposes. This can solve the one of the major issues of rural people. The "Process Flow Design of Thermo-Chemical Conversion of Animal Waste in a Gasifier Assembly Plant" project conducted in KFUEIT presents a significant step towards sustainable waste management and renewable energy production. The project focuses on designing an efficient and environmentally friendly gasifier assembly plant to convert animal waste into valuable biogas and biochar through thermo-chemical conversion. By optimizing the process flow, this initiative aims to minimize waste disposal and harmful emissions, while simultaneously generating renewable energy resources. The project exemplifies KFUEIT's commitment to innovative solutions for addressing environmental challenges and fostering a greener future.





## Design And Construction of Uninterruptible Power Supply UPS

The "Design and Construction of Uninterruptible Power Supply (UPS)" project undertaken at KFUEIT presents a comprehensive solution to ensure continuous and reliable power supply for critical electronic systems. By providing a robust UPS system, the project minimizes downtime and data loss during power outages, while safeguarding sensitive equipment from voltage fluctuations and power surges. With a focus on energy efficiency and sustainability, the UPS project contributes to operational efficiency, asset protection, and a more resilient power infrastructure, aligning with KFUEIT's commitment to innovative and responsible technological advancements.



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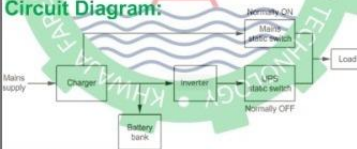
**Supervisor:**  
Dr. Adnan Khalil

### Uninterruptible Power Supply (UPS)

**Definition:**  
A UPS contains a battery backup system that stores power and delivers it to electronic equipment during power outages. It is designed to protect electronic equipment such as computers from power surges, voltage sags, and other power-related problems.

**Working:**  
When the main power supply is available, the UPS uses a rectifier to convert the incoming alternating current (AC) into direct current (DC). The rectifier also charges the UPS battery simultaneously. During power outage, the UPS switches to battery power. The DC power from the battery is converted back into AC power through an inverter. The inverter supplies the converted AC power to the critical devices connected to the UPS. Voltage regulator regulates the voltage supplied to connected devices, compensating for fluctuations in the input voltage.

**Circuit Diagram:**



**Application:**  
UPS delivers a continuous and clean power supply to critical and sensitive loads without delay. UPS systems safeguard sensitive electronic devices, such as servers, and networking equipment from power interruptions. By providing a continuous power source, UPS systems enhance the reliability of critical systems.

**Group Members:**

ZAHID MEHMOOD	PHYS19111055
SALMAN FIDA	PHYS19111014
FRAZ AHMAD	PHYS19111052
M. RIZWAN	PHYS19111056

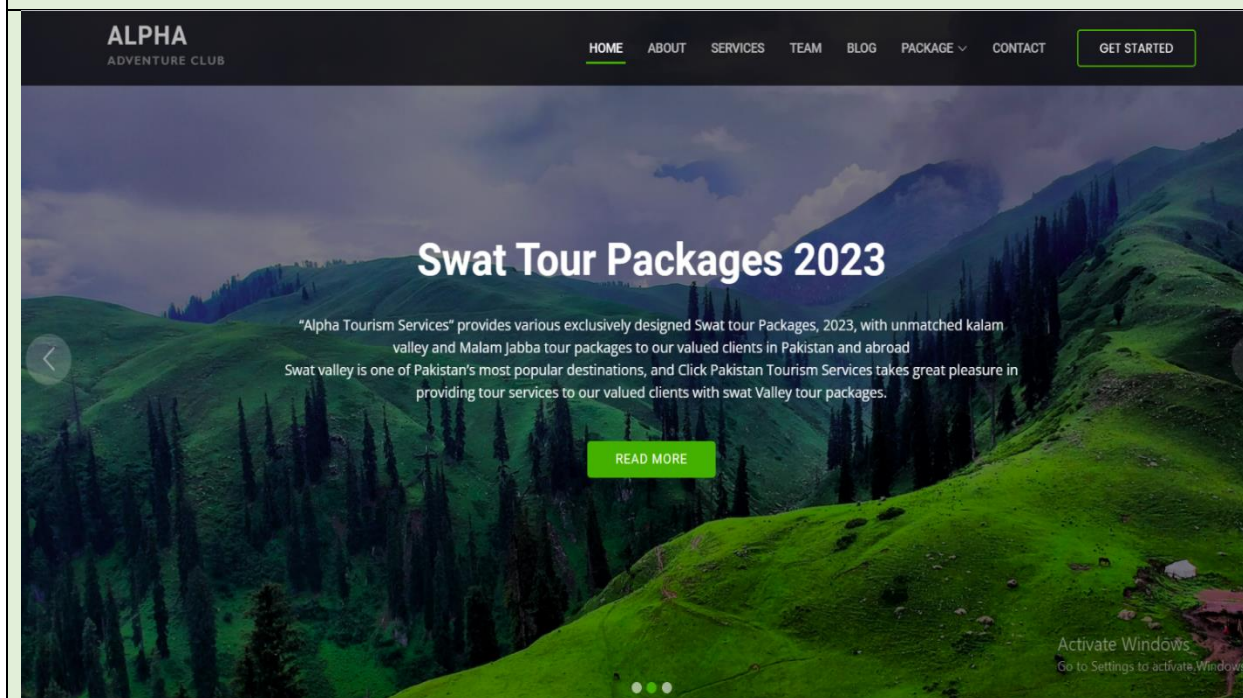
**Institute of Physics**





## Alpha adventure club

There are many applications available in market for all the targeted features, but many well-known tourisms web based applications lack in one feature or the other at one place. Users have to take support of different platforms. Therefore, it is important to cater the needs of the community which is being developed around the scope of tour and travel and help it thrive in order to promote tourism in Pakistan.





## Campus Management System

There are some systems some organization/institutes they have separate or loss effect system for the management of institutional information, educational institution information, student management or their evaluation. This function task is done mostly on papers which got lost one to which one cannot able to get the right required information in time or due to separation of systems. There is no synchronization. This mean there is a need of system which overcomes these problems. So, Campus management system is an application that will helps to maintain all educational related data. There i.e. form student enrollment to students attendance through their RFID cards their assessment evaluation, comes allocation to instructions and report related to these like grand book etc. Campus Management System allows users to store almost all of their campus's information electronically, including information on students, results, attendance etc.





## Mosque Tracer

The objective is to help users easily locate nearby mosques, receive directions, and estimate travel time. Providing accurate and reliable prayer timings is a key objective of Mosque Tracer. The aim is to provide users with a comprehensive collection of authentic Hadiths from reliable sources (AL-Sihah al-Sittah) Providing users with a reliable Zakat calculator that takes into account their financial information, including assets and investments, and accurately calculates the amount of Zakat owed.

## Mosque Tracer

### Aims:

Mosque Navigation

Prayer Timing's

Zakat calculator

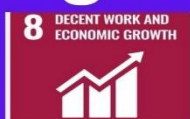
Hadiths Collection



## Order digitally at the Restaurant/Digital Order Placement System for Restaurant

Customers will use this mobile application to pick food from the e-menu card, read the E-menu card, and order meals implemented on the table. Simply by allowing the customer to pick the food of their choice. The results will display on the screen to the Chef who will cook the meal for you when you select a dish from the E-menu card. As a result of using this program, the Waiter's duty is reduced and, in some situations, eliminated. If the restaurant is busy, the waiters may be unavailable, and customers can face this problem so this system allows them to order meals by themselves. The chef will select the time of making the selected meal, and it will show to the customer on the table screen.

## Digital order system



THIS MOBILE APP ENABLES CUSTOMERS TO CHOOSE AND ORDER MEALS FROM THE E-MENU ON THEIR TABLE. THE CHEF RECEIVES THE ORDERS AND PREPARES THE SELECTED DISHES, REDUCING OR ELIMINATING THE NEED FOR WAITERS. CUSTOMERS CAN AVOID WAIT TIMES DURING BUSY PERIODS AND RECEIVE UPDATES ON THEIR ORDER STATUS.

ECONOMIC GROWTH VIA RESTAURANT TECH INNOVATION. APP ENABLES DIRECT ORDERS, REDUCES WAITER RELIANCE, BOOSTS EFFICIENCY, CREATES TECH JOBS, ENHANCES SATISFACTION, AND PRODUCTIVITY.

THE USE OF A MOBILE APP IN RESTAURANTS ALLOWS CUSTOMERS TO ORDER DIRECTLY FROM THEIR TABLE, PROMOTING EFFICIENCY AND INNOVATION.



## Riyasti Dastkari

Riyasti Dastkari website a celebration of exquisite craftsmanship and traditional artistry. Riyasti Dastkari website supporting local artistry. This platform curretted collection of handcrafted products that embody the rich cultural heritage Our region. This project useable to local Artisans, customers, Admin and Software Developer

## Riyasti Dastkari



products





## Women Safety Application

The aim of the project is to provide women security with a tool to enhance their safety while they go about their daily lives. This app aims to empower women by giving them access to various safety features such as an SOS button, emergency contacts, and the ability to quickly call emergency services. This app provides women with information on self-defense techniques and other safety measures they can take to protect themselves. The women safety app also has the ability to recognize danger zones and alert women when they are entering a potentially unsafe area based on data collected from various sources. The women safety apps aim to promote women's safety by creating a sense of security and trust. This app is designed to be easy to use and accessible to all women's, regardless of their age background, or location. With women safety app, women can feel secure confident knowing that they have a reliable tool to help them in case of emergency.

**YOU CAN CHANGE THE WORLD**

**WE EMPOWER ONE ANOTHER**

**“ You have the power to start living your dreams ”**

**✓ DRAWBACKS:**

- LACK OF AWARENESS
- LIMITED ACCESSIBILITY
- LIMITED LOCALIZATION
- LIMITED FEATURES
- TECHNICAL ISSUES

**✓ PROPOSED SYSTEM:**

- PANIC BUTTON
- EMERGENCY CONTACTS
- LOCATION TRACKING
- SAFETY TIPS
- SELF-DEFENSE TUTORIALS



## Donation of Books

The donation of books is a noble and impactful gesture that benefits both individuals and communities. When individuals or organizations donate books, they contribute to the promotion of education, literacy, and knowledge dissemination. For recipients, especially those in underserved or disadvantaged areas, donated books provide access to valuable resources that they may not have had otherwise.



## New books Purchasing

New books purchasing is a crucial process for educational institutions, libraries, and bookstores, ensuring access to the latest and most relevant publications. By investing in new books, these entities stay current with advancements in knowledge, technology, and literature.





## Study Circle

The essence of study circles lies in promoting active participation, critical thinking, and mutual learning, fostering a sense of camaraderie and a supportive learning community among its members. Whether held in educational institutions, workplaces, or community settings, study circles play a vital role in promoting lifelong learning, knowledge sharing, and personal enrichment.



## Book Fair

These events attract not only avid readers but also educators, librarians, and members of the general public, fostering a love for reading and knowledge dissemination. Book fairs play a crucial role in promoting literacy, encouraging the exchange of ideas, and celebrating the significance of books in enriching lives and shaping societies.








## Seminar Importance of Book Reading with the collaboration of DSA & KFUEIT EATS.

Collaborations between organizations like the DSA (Digital Services Association) and educational institutions like KFUEIT EATS (Khwaja Fared University of Engineering and Information Technology Entrepreneurship and Technology Society) can bring valuable insights and promote the importance of book reading.



**WELCOME!**  
**WEBINAR ON**  
*Improving Research Planning skills*  
using Elsevier Tools-ScienceDirect & Scopus  
**STARTS AT 11:05 AM**



- ✓ Please note that upon joining, you will be automatically muted, which means, you can hear what the Speaker/hosts say but you will not be able to speak. We will start at 11:05 AM.
- ✓ Please do not raise hands unnecessarily.
- ✓ If you wish to ask any question, please type in the Q&A Tab which will be visible on your screens. (Request you to not type Hi, Hello, Good morning etc.)
- ✓ For best experience, use headphones
- ✓ Information regarding certificates will emailed to you TOMORROW. Please stay attentive. Please **DO NOT** ask any questions regarding certificates in Q&A Box.

## Fehm-e-Deen Course

Fehm-e-Deen Course is an educational program aimed at deepening individuals' understanding and connection with their faith, primarily within the context of Islam. The course covers a comprehensive range of topics, including the study of the Quran, Hadith (sayings and traditions of Prophet Muhammad), Islamic history, theology, jurisprudence, and spirituality.





## Training sessions of Library resources and Services

Training sessions on library resources and services are essential to ensure that users are aware of and can effectively utilize the available resources and services. Here are some key points to consider when planning and conducting training sessions:

1. **Identify Target Audience:** Determine the specific target audience for the training sessions. This could include students, faculty, staff, or a combination of these groups. Consider their different needs and levels of familiarity with library resources and services.
2. **Define Learning Objectives:** Clearly define the learning objectives for each training session. Identify the specific skills or knowledge that participants should gain by the end of the session. This could include searching for resources, accessing e-books or journals, using citation management tools, or understanding library policies.
3. **Tailor Content to Audience:** Customize the training content to meet the needs and interests of the target audience. Consider their academic disciplines, research interests, and specific requirements. Provide examples and case studies relevant to their areas of study.
4. **Interactive Approach:** Adopt an interactive approach to engage participants and promote active learning. Use demonstrations, hands-on exercises, and group discussions to encourage participation and reinforce understanding. Allow participants to ask questions and seek clarification during the training session.





## Collection Development of KFUEIT Digital Library

The collection development process for the KFUEIT Digital Library involves curating a comprehensive and diverse range of academic resources. Here is a summary of the key steps involved:

- 1. Acquiring Resources:** Collaborate with publishers, online databases, and academic institutions to acquire licenses and permissions for e-books, research papers, journals, and other relevant materials. Ensure the collection covers various academic disciplines.
- 2. User-Friendly Interface:** Design an intuitive and user-friendly interface for the digital library platform. Implement features such as advanced search options, filters, and personalized user profiles to enhance accessibility and ease of navigation.
- 3. Remote Access:** Enable remote access to the digital library resources, allowing users to access materials anytime and from anywhere. This flexibility enhances convenience and facilitates academic research and study.
- 4. Multidisciplinary Approach:** Curate resources that cater to the needs of different academic disciplines, including engineering, information technology, sciences, humanities, and social sciences. Offer a wide array of subjects to meet the diverse requirements of the university community.
- 5. Collaboration with Publishers:** Partner with publishers to expand the availability of digital textbooks and reference materials. Explore options for subscriptions and partnerships to provide students with access to a wide range of educational resources.

By following these steps, the KFUEIT Digital Library can provide students and faculty with a comprehensive and accessible collection of academic resources, supporting research, learning, and innovation within the university community.

The screenshot displays the KFUEIT Digital Library website. On the left, there is a navigation menu with sections like 'Search Options', 'Communities & Collections', and 'Sign on for'. The main content area shows a search bar and a list of digital resources. The resources list includes the following items:

Issue Date	Title	Author(s)
3-Jan-2014	1805 calculus practice problems	ALBUKHIT
3-Dec-2017	The 100 Most Important Chemical Compounds A Reference Guide	Richard L. Myers
3-Jan-2004	181 Best Aviation Attractions	John Furner
2-Mar-2020	181 Best Aviation Attractions	John Furner
16-Jul-2005	181 gardening Hacks	Shawna Conrado
3-Jan-2017	181 TEXTURES IN COLOURED PENCIL	D E N S E T , H O W A R D
1-Apr-2018	18 KW SIC Power Module Packaging	Christina D'Amico, Professor C. Mark Johnson, Dr. Benson Rajasekar
18-Aug-2018	18 KW High Efficiency Compact Gull Based DC/DC Converter Design	Arupak Sen, Sanjeev Bala, Jing Ju, Iskandar Burgin, Ozkan Borayincik
2007	116. Modern Instrumental Analysis	-
3-Jan-2012	The 11 Lives of Libability	Nichole Tyle, Lederman
3-Jan-2015	A 1.2-20 GHz Passively-compensated Tunable Bandstop Filter with 40-dB Notch Level	Mahmoud Abdelrahman, Mark nicole
12-Feb-2020	A 1.2-20 GHz Passively-compensated Tunable Bandstop Filter with 40-dB Notch Level	Dimitris Perelis
3-Jan-2015	13C NMR Spectroscopy	John A. Blower



## Future Outlook and Goals

Looking towards the horizon, Khwaja Fareed University of Engineering and Information Technology envisions a future where sustainability is ingrained in every aspect of its existence. Building upon its commitment to the United Nations Sustainable Development Goals (SDGs), the university has set forth ambitious long-term sustainability visions and goals, aligning each aspiration with the respective SDGs.

At the heart of Khwaja Fareed University of Engineering and Information Technology's future outlook lies a comprehensive set of strategies and action plans geared towards achieving sustainability targets for each SDG. These plans extend beyond the confines of mere rhetoric, as Khwaja Fareed University of Engineering and Information Technology emphasizes tangible and measurable actions that will lead to lasting impact. The university acknowledges that achieving sustainability requires collective effort and meaningful engagement across the academic community and beyond.

To realize these aspirations, Khwaja Fareed University of Engineering and Information Technology recognizes the significance of innovation and collaboration. The university seeks opportunities to nurture a culture of innovation, encouraging creative thinking and novel approaches to address sustainability challenges. Through research and technological advancements, Khwaja Fareed University of Engineering and Information Technology aims to develop cutting-edge solutions that can be applied both within its campus and in wider global contexts. Leveraging the power of collaboration, the university actively seeks partnerships with other institutions, governmental bodies, non-profit organizations, and the private sector to amplify the reach and effectiveness of its sustainability initiatives.

By actively integrating sustainability into its institutional DNA, Khwaja Fareed University of Engineering and Information Technology endeavors to lead by example, not only within its academic community but also in the larger world. The university aims to demonstrate how educational institutions can play a pivotal role in driving societal transformation and shaping a sustainable future for generations to come.

In this final section of the report, we delve into Khwaja Fareed University of Engineering and Information Technology's future outlook and goals, exploring its long-term sustainability vision aligned with each SDG, the strategies and action plans it has devised to achieve these targets, and the exciting opportunities for innovation and collaboration that will bolster SDG implementation across all fronts. Through these strategic endeavors, Khwaja Fareed University of Engineering and Information Technology continues to pave the way for a brighter, greener, and more inclusive future, demonstrating that sustainable development is not merely a distant aspiration, but an active commitment to creating positive change today.



## Special Technology Zone



## Sports Complex (Cricket Stadium, Track, Swimming Pool, Gymnasium etc.)





## State of the Art School





## Conclusion

Recap of achievements and challenges in contributing to each SDG

Reaffirmation of the university's commitment to sustainable development and all SDGs

Call to action for all stakeholders to support the university's SDG initiatives



KHWAJA FAREED  
**UEIT**  
RAHIM YAR KHAN

# Ranking



KHWAJA FAREED  
**UEIT**  
RAHIM YAR KHAN



الحمد لله

# Congratulations



## UI Greenmetric World University Ranking 2022



Ranking Category	Year 2019	Year 2020	Year 2021	Year 2022	Improvement
<b>World</b>	<b>514</b>	<b>328</b>	<b>234</b>	<b>192</b>	<b>168%</b>
<b>Pakistan</b>	<b>13</b>	<b>9</b>	<b>6</b>	<b>3</b>	<b>333%</b>

**Khwaja Fared University of Engineering and Information Technology  
Rahim Yar Khan, Pakistan**





KHWAJA FAREED  
**UEIT**  
RAHIM YAR KHAN

**THE** WORLD  
UNIVERSITY  
RANKINGS



## Times Higher Education Impact Rankings 2023



### Category: Quality Education

Ranked

**1st**

in UETs

**3rd**

in Pakistan  
Public Sector

**98**

Worldwide



### Category: No Poverty

Ranked

**1st**

in UETs

**4th**

in Pakistan  
Public Sector

**101-200**

Worldwide

### Category: Affordable and Clean Energy

Ranked

**1st**

in UETs

**2nd**

in Pakistan  
Public Sector

**101-200**

Worldwide

### Category: Partnership for Goals

Ranked

**1st**

in UETs

**1st**

in Pakistan  
Public Sector

**201-300**

Worldwide

### Category: Zero Hunger

Ranked

**1st**

in UETs

**3rd**

in Pakistan  
Public Sector

**201-300**

Worldwide

### Category: Responsible Consumption and Production

Ranked

**1st**

in UETs

**1st**

in Pakistan  
Public Sector

**201-300**

Worldwide

### Category: Climate Action

Ranked

**1st**

in UETs

**2nd**

in Pakistan  
Public Sector

**201-300**

Worldwide