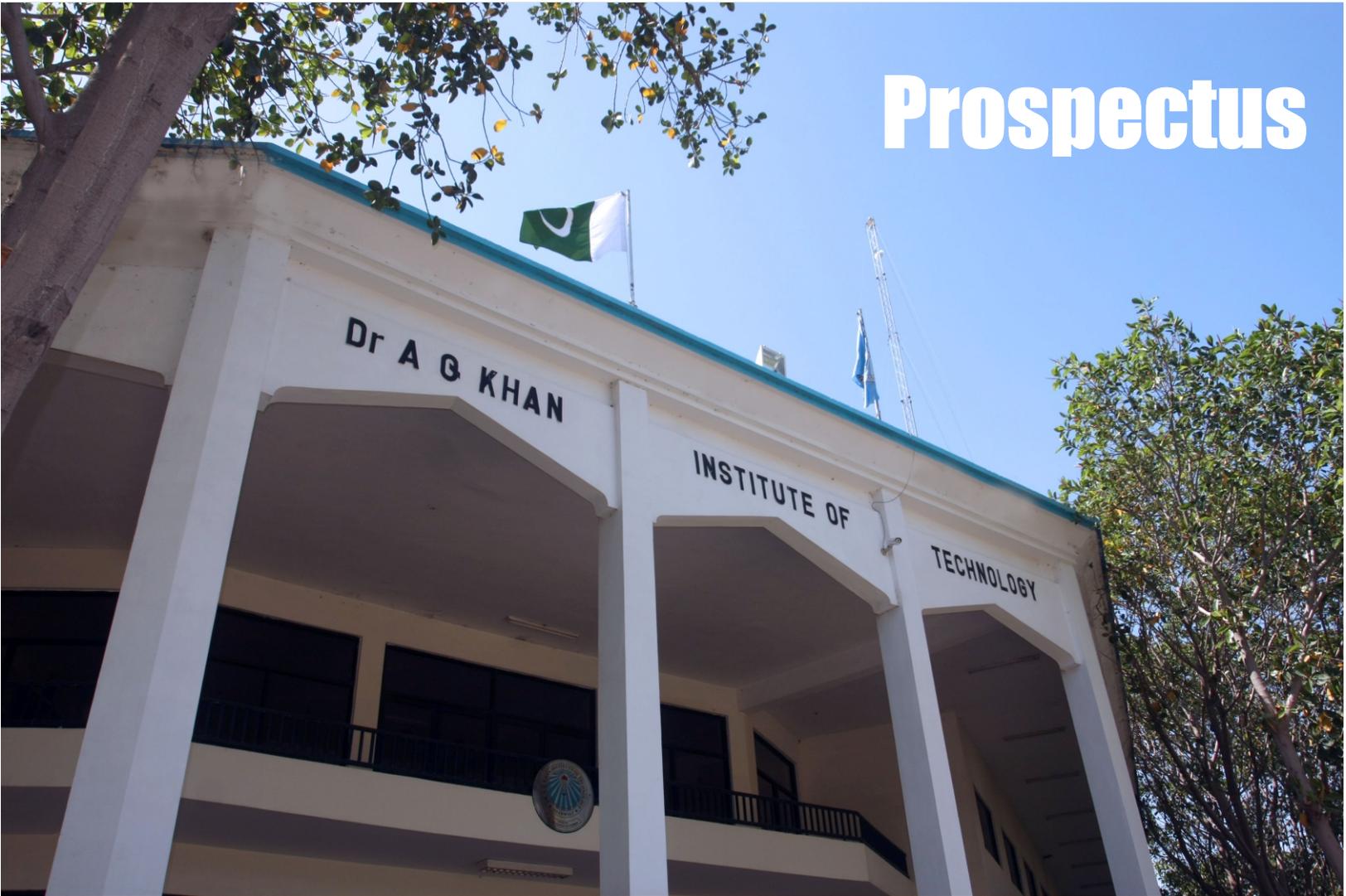


Prospectus



Dr. A. Q. Khan Institute of Technology
Mianwali

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Affiliated with



University of Engineering and Technology,
Lahore



Punjab Board of Technical Education,
Lahore



Dr. A. Q. Khan Institute of Technology,
Mianwali

Message from the President BOD



Dr. Abdul Qadeer Khan
Ni & Bar, HI

I am extremely pleased and proud to see that our Institute has grown into such a fine and prestigious Technical Institution in such a short span of time. All this has been made possible by the untiring and selfless efforts and devotion of the founding fathers, the Members of the Board and of the Executive Committee and above all, by the hard and dedicated work of the Principal and Teaching Staff of the Institute. All this would also not have been possible without the financial assistance provided by the Government of the Punjab, which is highly appreciated.

We are proud of the students who are putting in their best efforts to acquire knowledge of the latest technologies being taught at the Institute and their achievements in the final examination of the Punjab Board of Technical Education is enough to make any Institute proud.

I pray to Almighty Allah to bless us all with his bounties and guidance to fulfill our noble mission successfully. Ameen!

A handwritten signature in blue ink, which appears to read "Dr. Abdul Qadeer Khan".

Dr. Abdul Qadeer Khan, NI-& Bar, HI
President Board of Directors

Mission

The mission of the Dr. A. Q. Khan Institute of Technology is to provide affordable and accessible, high quality education in the field of engineering and technology appropriate for the region and the country. The Institute is committed to equip the students with basic skills and knowledge through student-centered academic environment that combines innovative classroom teaching with experiential learning which prepares students for professional success and responsible citizenship. The Institute provides equal opportunities to all irrespective of caste, creed or religion

Contents

Principal's Welcome Message	3
-----------------------------------	---

General Information

Management Structure	
An Introduction	
The Campus and Location	
Master Plan	
Facilities	
Library	
Admissions	
Finances	
Scholarships	

Academics

Electrical Technology	
Mechanical Technology	
Chemical Technology	
Civil Technology	
Computer Information Technology	
Electronics Technology	
Telecommunication Technology	
Instrument Technology	
General Sciences Facilities	

Rules and Regulations

Uniform	
Fee Rules	
Leave Rules	
Hostel Rules	
Library Rules	
Code of Ethics	
Disciplinary Action	
Transport Route Plan	

Principal's Welcome Message

It gives me great pleasure to welcome you to our Institute's Prospectus. I am delighted that you are considering studying at Dr. A. Q. Khan Institute of Technology. Choosing the right institution is key to your success. It will help shape your future and your career path. If possible, before committing yourself to any institution you should visit it to see its facilities, talk to the staff and current students. Applicants and their parents/guardians are always welcomed at our campus.

Our aim is to enhance economic, social and cultural development of the area, by providing high-quality technical education. We work hard to make sure that all of our students acquire the knowledge and skills that are essential in today's highly competitive job market. We are one of the top polytechnic institutes in Pakistan. Our graduated associate engineers are highly sought after by both private and public sector prestigious organizations.

Our beautiful and modern campus in quite country-side provides a stimulating environment to pursue your studies. During your time with us we aim to give you the knowledge and skills to get you ready for your future. We do our best to make your stay at our Institute a memorable period of your life. When you become students at Dr. A. Q. Khan Institute of Technology, you will meet people from all walks of life and make like-minded friends. The Institute is constantly evolving to ensure teaching methods and facilities are the best for students. Millions of rupees are being invested in building and laboratories.

Again I welcome you to the start of a very exciting journey at our prestigious Institute.

Muhammad Yousaf Khan

BSc Engg. (Elect), MSc Engg. (Elect)

Principal



Muhammad Yousaf Khan
Bsc Engg. (Elect), Msc Engg. (Elect)
Principal

Management structure/Organogram

The affairs of the Institute are managed by a Board of Directors of which Chief Minister of Punjab is Patron-in-Chief, Dr. A. Q. Khan (NI & Bar, HI) is the President of the Board for life-time. The Board of Directors is composed of high ranking ex-government officials, prominent engineers and academicians. The composition of the Board is given below.

BOARD OF DIRECTORS

Patron-in-Chief

Chief Minister of Punjab

President for Life Time

Dr Abdul Qadeer Khan, NI & Bar, HI

Members

- **Hakim Abdul Qayyum Khan**
National Hockey Player, Asian Gold medalist
- **Dr. Nazeer Ahmed**
Prominent Nuclear Scientist & Educationist
- **Dr. Saeed Elahi**
Chairman Pakistan Red Crescent Society
- **Maj. Gen (R) Hidayat Ullah Khan Niazi**
Ex Chairman NHA
- **Maj. General (R) Rafi Ullah Khan Niazi**
Ex DG IB, DG FC Baluchistan
- **Mr. Hafeez Ullah Khan Niazi**
Businessman, Columnist
- **Mr. Sardar Khan Khan Niazi**
CEO SK Group & Roze TV
- **Mr. Hameed Akhtar Khan Niazi**
Ex Bureaucrat and Social Worker
- **Mr. Muhammad Shaukat Virk**
Project Director, Dr A.Q Khan Hospital
- **Prof Mrs. Shoukat Zafar Niazi**
Prominent Educationist

Ex-Officio Members

- Chief Secretary, Punjab
- Secretary Education, Punjab
- Chairman, Punjab Board of Technical Education, Lahore
- Representative from UET, Lahore
- Commander PAF Base, Mianwali
- District Chairman/DC Mianwali
- Two to three Industrialists as nominated

Secretary

Principal of the Institute

Introduction

Keeping this background in mind, the idea of establishing an institution for engineering and technical education in Pakistan was first conceived by Dr. A. Q. Khan (HI, NI & Bar). While working at KRL he became aware of shortage of local expertise in different disciplines of engineering and technology.

Dr. A. Q. Khan's aspiration finally transformed to a reality when he inaugurated the construction work of Dr. A. Q. Khan Institute of Technology on 14th December 1998 near Mianwali. This was a step forward in the right direction.

The institute facilitates excellence in technical education by following appropriate curricula and teaching practices, appointing talented faculty, and providing an environment conducive to teaching and learning. The graduates trained at this Institute are expected to be highly competent professionals and possess human qualities. The graduates should not only be able to make a positive contribution to the existing engineering and technological activities in the country but also extend their scope.



Introduction

It is said that 21st century is “The age of the educated”. There can be little doubt that the world during current century will demand highly skilled men and women than ever before in the history. During this period technical education will influence the growth of a nation’s economy the most. Modern wars will not be won by soldiers armed with guns but with engineers, scientists and technologists armed with high-tech skills

Engineering and technological training is the foremost requirement of Pakistan. Our basic and technological scenario portrays a very bleak picture. The process of scientific and technological progress in Pakistan is stagnant and this largely accounts for the deplorable state-of-affairs that we have at our hands right now considering economic and industrial development of the country. The existing institutions in Pakistan, most of them established and run by the government, have failed to produce desired outcome mainly because of the limitations and restraints, which are deep-rooted in their structures. Scientific and technical education however, is indispensable for progress and development. In order to achieve this goal, we must lay foundations for the education of science and technology in our country. Institutions for vocational and technical training have to be set up to promote science and technology in Pakistan to enhance the availability of skilled technical manpower to industry.



The Campus and Location





The Campus and Location

Keeping in mind Dr. A. Q. Khan's motto of human upliftment of deprived and under-privileged regions through technical education, this was a step in right direction. It was highly essential for the region like Mianwali to have technical institute of higher learning in order to fully capitalize on the locally qualified and skilled manpower. The establishment of such Institute in Mianwali is highly optimal because nature has endowed this region enormous recourses like fine quality sand, clay, gypsum, coal, iron etc. Thus , this institute will not only help to fill the long-standing void of basic vocational training for scientific and technological education but will also provide a boost to the region's economic, industrial and agricultural infra structures. The personnel qualifying from this Institute are being absorbed in prestigious public sector organizations and in private sector industries like Chemical, Fertilizer, Pharmaceutical, Cement and Textile.

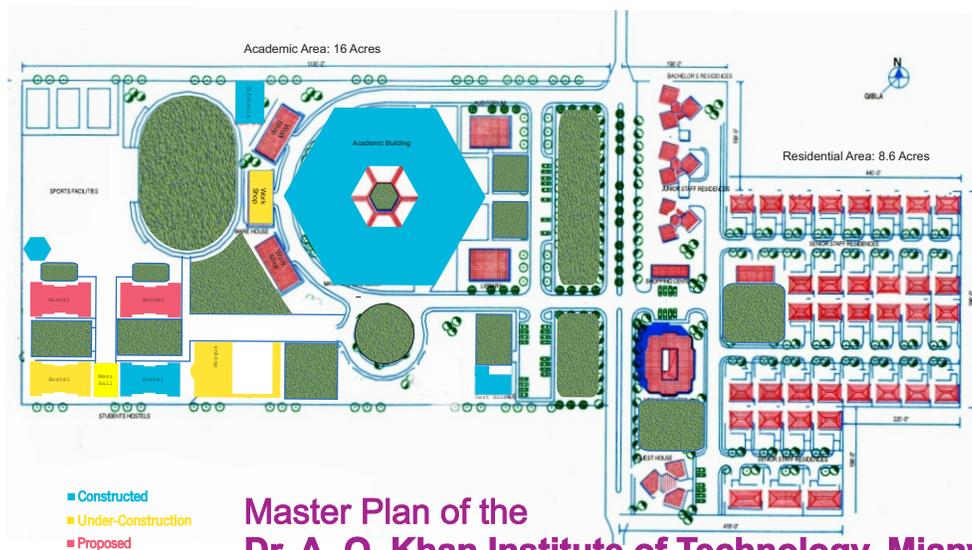
Spreading over an area of 25 acres, the main campus of the Institute is located in the midst of unspoiled and nature rich country side of Mianwali which is 2 km from Head-Pukka, a beautiful Canal distributary System on M.M. Road and about 14 km from Mianwali City.

The campus is designed to fully cater to the needs of the Institute. An area of 16 Acres has been allocated for the main academic buildings, workshops and hostels; a landmass of 8.6 acres has been reserved for providing the residential facilities to the teaching faculty of the Institute.

Academic departments are housed in a beautiful hexagonal double storey building of the main academic block. The construction work of this main academic block is almost complete. Faculty offices, classrooms and laboratories are accommodated in this main academic block.

The Master Plan

The Master Plan of the Institute spreads over an area of about 25 acres. An area of 16 acres has been earmarked for the main academic buildings, workshops and hostels and 8.6 acres, reserved for providing the residential facilities to the faculty/staff of the Institute. The construction of workshops and mosque is underway. The students hostel is nearly completed. A well furnished Mess hall is available there, a purpose-built library with an initial capacity of at least 10000 books and magazines and equipped with facilities for seminars etc. An auditorium with a seating capacity of 700, a Cafeteria to cater for 400 students, a well-equipped Gymnasium, staff residences, a complete Medical Unit and a proper Shopping Mall are also some of the salient features of the Institute's master plan.



Facilities

Accommodation

Moving away from home to study in higher education is an exciting time in life. There are new friends to be made, new places to discover and the chance to develop many new interests.

The Institute is aware of the great importance to students of being placed in suitable accommodation.

Besides purpose-built hostels, temporary accommodation has been arranged in the Main Academic Block.

Currently about 400 residential spaces are available. The rooms are airy and adequately furnished.



Cafeteria

A cafeteria to accommodate the whole community of the Institute has been established. All commodities are always available on the lowest affordable rate. Quality is always ensured. Health aspect is kept in mind by maintaining the cleanliness etc. Service is appreciable.



Facilities

Sports and Recreation

The Institute plays a key part in promoting the physical well being of both staff and students. Indoor facilities for table tennis, carimboard and chess are ready. For out door sports Volley Ball courts, hockey and cricket grounds are being developed.

Sports facilities planned to be provided include a modern and well-equipped Gymnasium with multipurpose court to cater for Badminton, Basketball and Volley Ball.

Besides sports at the campus, surroundings are also worth exploring.



Dispensary

A well equipment dispensary with all life saving medicines exists in the Institute. Heat stroke treatment facility have also been made. A well-trained and experienced dispenser has been employed who is competent in providing first aid in all infectious/contiguous diseases of urgent nature. For proper medical check up, patients are referred to the DHQ Hospital in Mianwali city.

Societies & Clubs

1. Art & Photography Society

Those who are interested in painting, drama, photography etc, can become member of the society

2. Literary Society

Those students who are interested in debate, duiz, bait-bazi, poetry, prose etc can become the member of the society

3. Environmental Protection Society

Those students who are interested in protection of environment, can become a member of the society

4. Blood Donors Society

The society will maintain data base of bloods donors from the Institute and will provide blood to those in need.

5. Adventure Club

The Adventure club will promote outdoor activities such as hiking, camping, fishing, day-trip, tours etc.

6. Sports Club

This club will provide chance to participate in the sport of your interest. It will provide training and will arrange sports competitions within Institute and with other Institutions.

7. Aero-Modeling Club

Aero-Modeling is a probably very popular hobby all over the world. Those interested can make scaled models of their favorite planes. Further radio-controlled aircrafts may be assembled.

8. Departmental Technical Societies

Each department may have its technical society. The respective society will provide facility to develop projects of their interest, arrange short training course and technical lectures of experts from industry

The Institute Library

The Library is the major source of information for the staff and students of the Institute. The Library caters to the needs of the all years of the different programs. Teaching and research level material is acquired with the involvement of academic staff. The strength of holding for each subject reflects the special interests and needs of the faculty staff and students, but also includes some of the general or leisure interest.

The Library Staff is committed to support the educational, teaching and research needs of the students, staff and faculty. It is well-lit, airy and provides ideal conditions for quiet study environment. In addition several personal computers provide access to wide range of information databases, lectures and CDs.

Extra copies of books in heavy demand, for example text books, are available. The Library has subscription of several national journals. The Library's environment is inviting and encourages the students to spend much of their spare time in the Library.

General Information

Admissions

Admission Criteria:

For DAE:

- S.S.C. (Matric) with Science or equivalent qualification.
- At least 45% marks in subjects: Math, Physics, Chemistry & English.
- Maximum age limit is 23 year
- All seats will be filled on open merit

For B.Sc. Engineering Technology

At least 60% marks in DAE or FSc. Ten (10) marks from the result of supply holders will deducted while determining the percentage.

Merit for admission is determined as per following policy.

- a. 70% weightage to DAE / FSc marks (Pre-Engineering).
- b. 30% weightage UET Entry Test.

Admission Procedure:

Admission process for DAE / B.Sc. Engineering Technology in all technologies is as under:-

Applications on a prescribed form are received soon after the advertisement of admissions. Prospectus and admission form can be obtained from the Institute and our City Office at Ballo Khel Road (UBL), Mianwali

Merit list will be prepared and displayed in the Institute Campus and City Office, which will contain the date deposit of the dues and commencement of the academic session.

The candidates through out the country can apply for admission in any technology in DAE programs.

For B.Sc. Engineering Technology program "Punjab Domicile" is required, however. Reserve seats are available from candidates applying on all Pakistan basis.

Finances

Financing of the Institute

1. The Institute is a non-profit organization. The Institute is financed from donations, grants and tuition fees.
25 acres of land for the purpose was donated by the family of late Brig Abdul Khaliq Niazi.
The initial construction of buildings and setting up of labs have been completed through generous financial contribution of Dr. A. Q. Khan, Dr M. Zafar Niazi, members of BOD and Punjab Government.
2. The running expenditure, further construction and labs enhancement is financed from:
Donations, contributions, subscriptions, aid and grants made by donors and benefactors.
Grants made by the Federal and Provincial Governments, Institutions, and any other Society /Organization.
Fees, remuneration or charges for any service rendered by the Institute.
Any other donor/source.

Scholarships

The Institute is committed to support financially under-privileged students. About one hundred scholarships are available to exceptional and needy students.

Merit Scholarships

The Institute has launched a Merit Scholarship to students with exceptional academic records. The scholarships are given for a session and may be continued if students maintained their positions. Detail and eligibility for the scholarships is given below:

For DAE Program:

- * Students having 80% or above marks in SSC Examination get full fee waiver.

Total thirty scholarships are available to the students of 3-Year DAE program, ten for each year. First year scholarships are given according to SSC marks. The Scholarships for 2nd and 3rd year are given to students securing top ten positions in PBTE programs

For B.Sc. Engineering Technology Program:

Eight scholarships are available per Technology, two for each year. Scholarships are given to top two positions in each session.

Students Welfare Fund (SWF)

This fund has been created with the support of the **Shakira Azeem Trust** and a few other philanthropists. About 60 students are being benefitted from this facility. This financial support is extended to needy, intelligent and hard working students after thorough investigation by a committee constituted for this purpose by the Institute. The continuation of this scholarship depends on satisfactory academic performance of the student.

Dr. A. Q. Khan Scholarship

This prestigious scholarship awarded to students with distinction. Any student who secures any of the top three positions in final PBTE exam in any technology, will be eligible for this scholarship. The scholarship holder will get full fee waiver. This scholarship covers all tuition and lab fees.

Dr. A. Q. Khan Gold Medal

Dr A. Q. Khan Gold medal has been introduced since 2005. This is given to first or second position holders in PBTE / University final exams. The medal holders are also awarded with a handsome cash prize.

Academics

B.Sc. Engineering Technology

Affiliated with

University of Engineering and Technology, Lahore.

- Electrical Technology
- Mechanical Technology
- Chemical Technology
- Civil Technology

Diploma of Associate Engineer (DAE)

Affiliated with

Punjab Board Of Technical Education, Lahore

- Electrical Technology
- Mechanical Technology
- Chemical Technology
- Civil Technology
- Computer Information Technology
- Electronics Technology
- Telecommunication Technology
- Instrumentation Technology

Electrical Technology



Programs Offered

- **B.Sc. Engineering Technology**
- **Diploma of Associate Engineer**

Introduction

The discipline of electrical technology typically embraces electrical energy production and distribution, electrical motors and generators, power electronics. Electrical Technology is important to industrialize as well as developing countries like Pakistan, which is suffering from worst shortages of electrical power.

The course is delivered through formal lectures, seminars, extensive practical work.

This programme provides a broad introduction to the key topics associated with electrical technology, such as the generation, transmission and distribution of electric power as well as the electrical devices connected to such systems including generators, motors and transformers. Although much of the field is concerned with the problems of three-phase AC power - the standard for large-scale power transmission and distribution across the modern world, a significant fraction of the field is concerned with the conversion between AC and DC power as well as the development of specialized power systems such as those used in aircraft or for electric railway networks. This program stresses an understanding of power plant operations and technologies, equipment and systems maintenance, health, safety, and environmental issues. The Instrumentation and Control option prepares students to service power plant control devices.

This program provides sound practical and technical knowledge and skills to persons desiring to enter the electrical power engineering field. The program is consists of lectures, demonstrations, presentations and exercises that provide practical working knowledge of power systems.

Electrical Technology graduates typically get work in heating plants, the oil and gas, cement, fertilizer and paper industry, and the power generation industry.

Facilities

Power Engineering lab

Machines lab is an essential part of electrical technology. In this laboratory students perform experiments on different types of transformers like single-phase and 3-phase (star & delta), DC motors and generators like series, shunt and compound, AC single and 3-phase Generator and motors like induction, synchronous, etc. The lab contains transformer and AC/DC machine trainers. Special purpose motors like AC Series, universal, servo and stepper motors are also provided for experiments. It also contains unassembled motors and generators for understanding their construction.

Electrical Wiring Lab

This lab is used to learn basic electrical wiring concepts and techniques. Several wiring techniques like casing, batten and concealed wiring are taught and practised. Students also learn the troubleshooting of electric wiring circuits. Very basic electric wiring circuits like staircase light switch, tube light and complex industry wiring circuits are taught here.



Electronics lab (Analog & Digital)

This lab provides initial and basic practical concept to the students and explores their capabilities according to the future concern in electrical and electronics engineering & technology. In this lab students perform different types of experiments concerning analog & digital electronics and also basic electrical engineering & technology. This lab also contains all primary accessories which are helpful in projects such as soldering stations, PCB fabricating facility etc.

Measurement & Instrument Lab

In this lab students visualize the basic structure of different types of measuring instruments such as Digital and Analog Multimeters, lux meter, energy meter etc and also transparent models of voltmeter, ammeter and galvanometer. This lab also provides facility for the students to learn different types of measuring instruments, operation of signal generator and oscilloscope. This lab also provides the calibration equipment to calibrate the equipment according to the international standards.

Communication systems Lab

Telecommunication plays an important role in our today life. Communications have a significant social, cultural and economic impact on society for achieving modern needs. To meet the requirements, we have established communication systems Lab. This lab fulfills the needs of modern communication systems.

In this lab experiment relating to mobile communication, satellite communication, fiber optical communication, and data communication are performed



Electrical Simulation Lab

The goal of this lab is to perform simulation exercises concerning to electronics, digital logic design, electric circuit analysis, power system engineering courses. This lab provides the facility for the student to perform different experiments in software such as MATLab, Labview, Electronics Work Bench(EWB), Proteous, ETAP etc. This lab also provides the facility of multimedia projector and printing to students.

Basic Electrical Engineering Lab

The basic purpose of the laboratory is to demonstrate the use of basic electric equipments such as Voltmeter, Ammeter, Wattmeter, Energy meter etc. Experiments related to the lighting and illuminations are also performed.

Project Lab

The basic purpose of this lab is to provide the separate facility for the students to work on a project and also provides access to basic and necessary tools and equipment required for the realization the project. The main aim of this lab is to provide the sophisticated and technical environment for the project development.



Industrial & Power Electronics Lab

The objective of this lab is to demonstrate the experiments related to the basic control systems such as PI,PD and PID controller, PLC controller, level control, different sensors and actuators. This lab also facilitates the student according to the needs of modern semiconductor devices specially thyristor family.

Electrical Technology

B.Sc. Engineering Technology, Course of Studies

1st Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	HU-101	Communication Skills-I	0	3	0	1
2	ET-101	Electrical Technology	3	3	3	1
3	CH-101	Applied Chemistry	3	3	3	1
4	PHY-101	Applied Physics	3	3	3	1
5	MA-101	Applied Mathematics-I	3	0	3	0
Total			12	12	12	4
Grand Total			24		16	

2nd Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	ET-101	Electrical Technology	3	3	3	1
2	ET-102	Electrical Technology (Practical-I)	3	3	3	1
3	ET-103	Electrical Technology (Practical-II)	3	3	3	1
4	ET-104	Electrical Technology (Practical-III)	3	3	3	1
5	ET-105	Electrical Technology (Practical-IV)	3	3	3	1
Total			15	15	15	5
Grand Total			39		21	

3rd Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	ET-201	Industrial Electronics	3	3	3	1
2	ET-202	Power System Analysis Techniques	3	0	3	0
3	ET-203	Fundamentals of Space & Communication Tech	3	3	3	1
4	ET-204	Electrification and Energy Auditing	3	3	3	1
5	ET-205	Power Plants Technology	3	3	3	1
Total			15	12	15	4
Grand Total			27		19	

4th Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	ET-301	Advanced Industrial Electronics	3	3	3	1
2	ET-302	Advanced Power System Analysis	3	0	3	0
3	ET-303	Advanced Space & Communication Tech	3	3	3	1
4	ET-304	Advanced Electrification and Energy Auditing	3	3	3	1
5	ET-305	Advanced Power Plants Technology	3	3	3	1
Total			15	12	15	4
Grand Total			27		19	

5th Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	ET-401	Advanced Industrial Electronics	3	3	3	1
2	ET-402	Advanced Power System Analysis	3	0	3	0
3	ET-403	Advanced Space & Communication Tech	3	3	3	1
4	ET-404	Advanced Electrification and Energy Auditing	3	3	3	1
5	ET-405	Advanced Power Plants Technology	3	3	3	1
Total			15	12	15	4
Grand Total			27		19	

6th Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	ET-501	Advanced Industrial Electronics	3	3	3	1
2	ET-502	Advanced Power System Analysis	3	0	3	0
3	ET-503	Advanced Space & Communication Tech	3	3	3	1
4	ET-504	Advanced Electrification and Energy Auditing	3	3	3	1
5	ET-505	Advanced Power Plants Technology	3	3	3	1
Total			15	12	15	4
Grand Total			27		19	

7th Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	ET-601	Advanced Industrial Electronics	3	3	3	1
2	ET-602	Advanced Power System Analysis	3	0	3	0
3	ET-603	Advanced Space & Communication Tech	3	3	3	1
4	ET-604	Advanced Electrification and Energy Auditing	3	3	3	1
5	ET-605	Advanced Power Plants Technology	3	3	3	1
Total			15	12	15	4
Grand Total			27		19	

8th Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	ET-701	Advanced Industrial Electronics	3	3	3	1
2	ET-702	Advanced Power System Analysis	3	0	3	0
3	ET-703	Advanced Space & Communication Tech	3	3	3	1
4	ET-704	Advanced Electrification and Energy Auditing	3	3	3	1
5	ET-705	Advanced Power Plants Technology	3	3	3	1
Total			15	12	15	4
Grand Total			27		19	

*Tutorials=2hrs/Week

Study Scheme Mechanical Engineering Technology

Electrical Technology

DAE Course of Studies

First Year				
Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-111	Islamiat / Pakistan Study	1	-
2	Eng-112	English	2	-
3	Math-123	Applied Mathematics-I	3	-
3	Ch - 132	Applied Chemistry	1	3
4	Comp - 122	Introduction to Computer Applications	1	3
4	ET - 115	Principles of Electrical Engineering	3	6
5	ET - 121	Basic Electrical Drawing	-	3
5	ET - 146	Workshop Practice-I	1	15
6		i) Wiring	1	6
7		ii) Metal Work	-	3
7		iii) Wood Work	-	3
8		iv) Welding	-	3

Third Year				
Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-311	Islamiat / Pakistan Study	1	-
2	Mgm - 321	Business Communication	1	-
3	Mgm - 311	Industrial Management & Human Relations	1	-
4	ET - 316	A.C. Machines	4	6
5	ET - 322	Power Plant & Energy Conservation	2	-
6	ET 335	Transmission, Distribution and Protection of Electrical Power Systems	4	3
7	ET - 343	Telecommunication	2	3
8	ET - 353	Repair & Maintenance of Electrical Equipment	1	6
9	ET - 364	Digital & Industrial Electronics	3	3

Second Year				
Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-211	Islamiat / Pakistan Study	1	-
2	Math-213	Applied Mathematics II	3	-
3	Phy - 222	Applied Physics	1	3
4	Mgm - 221	Business Management & Industrial Economics	1	-
5	ET - 213	D.C. Machines & Batteries	2	3
6	ET - 223	Electrical Instruments & Measurements	2	3
7	ET - 233	Utilization of Electrical Energy	2	3
8	ET - 242	Installation Planning & Estimating	1	3
9	ET - 251	Applications of Computers in Elect. Tech.	-	3
10	ET - 263	Basic Electronics	2	3
11	ET - 271	Workshop Practice-II (Basic Machine Shop)	-	3





Programs Offered

- **B.Sc. Engineering Technology**
- **Diploma of Associate Engineer**

Introduction

Mechanical Technology, often called mother of all other technologies is one the oldest branches of engineering. The industry has sustainable demand for mechanical engineers and technologists since last two centuries. Having wide range of disciplines as well as employment opportunities all over the world, mechanical engineers and skilled technologists are backbone of every industry. No industry can exist or survive with out them. Mechanical engineers create almost all technological devices that enable our modern way of life, from automobiles to machine tools, household appliances to cooling systems for electronic circuits. Course in Mechanical Technology develops skills in machine and tool design, thermodynamics hydraulics, materials, Computer Aided Design (CAD) and Computer Integrated Manufacturing (CIM). Three-year course in Mechanical Technology provides extensive training on lathe, milling and shaper machines and CNC lathe/milling machine. Students get hands-on experience in welding technologies, foundry and woodwork.



Facilities

Machine shop I

This lab hosts large number of various types of lathe machines as well as shaper machines for basic machine shop practice. Drill machines and power hacksaws are also installed to support the machining. The second year students perform various practical exercises and projects like turning, threading etc, on individual basis.

Machine shop II

This is advanced level machine shop. This is equipped with modern milling machines along with lathe machines to cover various projects. This lab caters to the practical requirements of final year syllabus of mechanical technology.

Computer Aided Design (CAD) Lab

This lab has several computer systems connected with local area network. Each system is installed with Auto Cad software used for computerized drawings. Here students perform complex drawing exercises to meet the requirement of present era.

Having facility of all measuring instruments like universal testing machine moisture tester, Rockwell

Welding Shop

Welding shop provides opportunity to students to learn different types of welding techniques. The lab is equipped with different types of welding stations like electric arc and gas welding stations, spot and MIG welding stations. Students are assigned various welding projects.



Metal & Wood Work Shops

Bench work is the basis of Mechanical Technology practical. Hand tools are used for training in this workshop pertaining to metal work. Drilling and grinding machines are also installed in this work shop.

Woodwork shop is equipped with all essential equipment. Students of other technologies perform practical exercises in Metal and Woodwork shops

Foundry

Foundry has a pit furnace, heated by furnace oil. Here students prepare patterns and moulds. In this lab students learn basic concepts of casting.

CNC Lab

The heart of this lab is a modern Computerized Numerical Controlled (CNC) Machine, "Boxford Duet", imported from England. Several computer systems are connected to CNC machine with local area network. This CNC machine functions both as lathe and milling machine. In this lab students perform practical exercises of high-precision machining



Mechanical Technology

Mechanics of Materials lab

Mechanics of material lab has testing equipment like universal testing Machine (UTM), Rockwell hardness testing, Beams bending apparatus, beam twisting apparatus curved bais testing apparatus, and other latest equipment.

Mechanics of Machine Lab

The Lab has verity of equipment for demonstration of basics of mechanics of machine and analysis. ABS system for car is available.

IC Engines & Thermodynamics lab

The Institute has developed in dengeniously 4 stroke and 2 strokediesel & petrol engine models for knowledge and comprehension.



Mechanical Technology

1st Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	CH-101	Applied Chemistry	3	2	3	1
2	MA-101	Applied Mathematics-I	3	0	3	0
3	CT-101	Computer Fundamentals	3	2	3	1
4	MT-101	Applied Drawing	2	3	2	1
5	HU-101	Communication Skills-I	0	3	0	1
Total			11	10	11	4
Grand Total			21		15	

2nd Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	CH-102	Applied Chemistry-II	3	2	3	1
2	MA-102	Applied Mathematics-II	3	0	3	0
3	CT-102	Computer Fundamentals-II	3	2	3	1
4	MT-102	Applied Drawing-II	2	3	2	1
5	HU-102	Communication Skills-II	0	3	0	1
Total			11	10	11	4
Grand Total			21		15	

3rd Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	C-231	Applied Chemistry-III	3	2	3	1
2	C-232	Applied Mathematics-III	3	0	3	0
3	C-233	Computer Fundamentals-III	3	2	3	1
4	C-234	Applied Drawing-III	2	3	2	1
5	IT-201	Information Technology	0	3	0	1
Total			11	10	11	4
Grand Total			21		15	

4th Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	C-241	Applied Chemistry-IV	3	2	3	1
2	C-242	Applied Mathematics-IV	3	0	3	0
3	C-243	Computer Fundamentals-IV	3	2	3	1
4	C-244	Applied Drawing-IV	2	3	2	1
5	IT-202	Information Technology-II	0	3	0	1
Total			11	10	11	4
Grand Total			21		15	

7th Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	C-351	Applied Chemistry-V	3	2	3	1
2	C-352	Applied Mathematics-V	3	0	3	0
3	C-353	Computer Fundamentals-V	3	2	3	1
4	C-354	Applied Drawing-V	2	3	2	1
5	C-355	Communication Skills-V	0	3	0	1
Total			11	10	11	4
Grand Total			21		15	

6th Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	C-361	Applied Chemistry-VI	3	2	3	1
2	C-362	Applied Mathematics-VI	3	0	3	0
3	C-363	Computer Fundamentals-VI	3	2	3	1
4	C-364	Applied Drawing-VI	2	3	2	1
5	C-365	Communication Skills-VI	0	3	0	1
Total			11	10	11	4
Grand Total			21		15	

7th Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	MT-471	Power plant Technology	3	2	3	1
2	MT-472	Industrial Energy Management	3	-	3	-
3	MT-473	Health, Safety and Environment	3	-	3	-
4	MT-474	Machining Technology II	3	2	3	1
Total			12	4	12	2
G-Total			16		14	

8th Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	T-401	Industrial Training / Projects	+	+	+	+
Total			+	+	+	+
Grand Total			+		+	

* The total duration of the Industrial Training / Projects shall comprise of:

18 Weeks of 7th semester + 18 weeks of 8th semester

DAE Course of Studies

First Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen – 111	Islamiat / Pakistan Studies	1	-
2	Eng – 112	Functional English	2	-
3	Math – 113	Applied Mathematics – I	3	-
4	Phy – 122	Applied Physics	2	3
5	Ch – 112	Applied Chemistry	1	3
6	Comp – 142	Computer Applications	1	3
7	MT – 141	Safety Practices and Procedures	1	0
8	MT – 163	Basic Engineering Drawing and CAD – I	1	6
9	MT – 117	Workshop Practices – I	2	15
	A)	Metal Work	-	3
	B)	Wood Works	-	3
	C)	Welding & Forging	-	3
	D)	Foundry	-	3
	E)	Basic Mechanical Shop-I Theory	2	-

Third Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-311	Islamiat / Pakistan Studies	1	-
2	IMH-311	Industrial Mangement and Human Relation	1	-
3	Mech-312	Hydraulics and Hydraulic Machines	1	3
4	Mech-322	Applied Thermodynamics	2	3
5	Mech-331	Industrial Planning and production Methods	1	3
6	Mech-343	Machine Design & Analysis	2	3
7	Mech-353	Tool & Mould Design	2	3
8	Mech-362	Material Testing and Heat Treatment	1	3
9	Mech-374	Workshop Practice-III	1	3
10	Mech-382	CAD / CAM	1	3
11	Mech-392	CNC Machines	3	6

Second Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-211	Islamiat / Pakistan Studies	1	-
2	Phy-212	Applied Physics	1	3
3	Math-212	Applied Mathematics – II	3	-
4	Mgm-211	Business Communication	1	-
5	Mgm-221	Business Management and Industrial Economics	1	-
6	ET-202	Applied Electricity and Electronics	1	3
7	MT-252	Metrology	1	3
8	MT-223	Engineering Drawing – II	1	6
	A)	Machine Drawing	1	3
	B)	CAD – II	0	3
9	MT-236	Workshop Practices – II	2	12
	A)	Basic Machine Shop-II	0	6
	B)	Foundry & Pattern Making	0	3
	C)	Advance Welding	0	3
	D)	Theory	2	0
10	MT-242	Metallurgy	2	0



Chemical Technology



Programs Offered

- **B.Sc. Engineering Technology**
- **Diploma of Associate Engineer**

Introduction

The course of diploma of associate engineer (DAE) in chemical Technology, revolves around the managing the behaviour of the materials and chemical reactions predicting their compositions. The students learn about the flows, temperature and pressure of solids, liquids and gases. They learn about chemical, biological and physical processes using chemical equations as well as equipment and techniques used in the industry.

Academic staff in the department takes creative and imaginative approach to teaching, supplementing lectures with hands-on laboratory practical exercises and student presentations.

The chemical process industries in Pakistan are expanding and actively recruiting associate engineers in large numbers. The range of career opportunities for chemical engineers is immense and career choices exist in areas such as chemicals, fertilizer, pharmaceuticals, food, detergents, cement, paints, petrochemicals, rubber and plastics.



Chemical Engineering Lab-I & II

Chemical Engineering lab tends to focus on the properties of substances and the interaction between different types of matter. This main lab is well equipped with all fundamental practical apparatus specially compulsory reagents are available mostly used in acid / basic radicals confirmatory tests and purification of chemical substances by crystallization and sublimation. The lab has excellent facilities for cement and water analysis.



Unit Operation Lab

Unit operation lab mostly used for practical during third year of Chemical Technology. This lab hosts diverse types of equipment used in chemical process industry. It has a Distillation Tower - a fractionating column is an essential item used in the distillation of liquid mixtures to separate its different components. It simulates an oil refinery. Paddle Mixer, Ball Mill, Jaw Crusher and Pebble Mill are installed in this lab. An arrangement of steam generator, falling film evaporator and heat exchangers shell & tube and jacket & coils are installed to develop basic concepts. This lab also has a Plate & Frame filter press, which removes water from water-solid mixture.

Engineering Technology and Instrument lab

The energy sector has become a strategic industry for a Country. Our Energy Technology & Instrument Lab makes training with state of the art lab equipments like Aniline Point Apparatus, Flash Point Apparatus, Cloud Point and Pour points Apparatus which are commonly use in oil & gas sector.

Instrumental methods used to measure physical quantities of analyte such as light absorption fluorescence or conductivity. This lab also equipped with spectrophotometer, polarimeter, Refractometer, Digital melting point apparatus, Colorimeter etc

Fluid Friction lab

Fluid friction lab is designed to allow to detailed study of the fluid friction head losses with occur when an incompressible fluid flows though pipes, bends valves and wide range of components.

A clear acrylic section of pipeline houses a venturimeter, an orifice plate assembly and a pilot tube, so that these can be investigated as flow measurement devices

Fluid friction apparatus is designed to be operated in conjunction with the Hydraulics Bench the unit can be used with a range of instrumentation packages including water and mercury manometers, hand-held digital pressure meters, Different types of pumps like centrifugal pumps, reciprocating pump, gear pump, rotatory pump, reciprocating compressors, centrifugal blowers have been installed.

Chemical Technology

1st Semester

Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	MA-101	Applied Mathematics-I	3	0	3	0
2	CH-101	Applied Chemistry	3	3	3	1
3	PHY-101	Computer Physics	3	3	3	1
4	CT-101	Computer Fundamentals	3	3	3	1
5	HU-101	Communication Skill-I	0	3	0	1
Total			12	12	12	4
Grand Total			24		16	

2nd Semester

S.No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	MA-102	Applied Mathematics-II	3	0	3	0
2	CH-101	Applied Chemistry	3	3	3	1
3	PHY-101	Computer Physics	3	3	3	1
4	CT-101	Computer Fundamentals	3	3	3	1
5	HU-101	Communication Skill-I	0	3	0	1
Total			12	12	12	4
Grand Total			24		16	

3rd Semester

S.No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	CH-201	Applied Chemistry-II	3	3	3	1
2	CH-202	Applied Chemistry-II	3	3	3	1
3	CH-203	Applied Chemistry-II	3	3	3	1
4	CH-204	Applied Chemistry-II	3	3	3	1
5	CH-205	Applied Chemistry-II	3	3	3	1
Total			15	15	15	5
Grand Total			39		21	

4th Semester

S.No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	CH-204	Applied Chemistry-II	3	3	3	1
2	CH-205	Applied Chemistry-II	3	3	3	1
3	CH-206	Applied Chemistry-II	3	3	3	1
4	CH-207	Applied Chemistry-II	3	3	3	1
5	CH-208	Applied Chemistry-II	3	3	3	1
Total			15	15	15	5
Grand Total			54		26	

5th Semester

S.No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	CH-301	Applied Chemistry-III	3	3	3	1
2	CH-302	Applied Chemistry-III	3	3	3	1
3	CH-303	Applied Chemistry-III	3	3	3	1
4	CH-304	Applied Chemistry-III	3	3	3	1
5	CH-305	Applied Chemistry-III	3	3	3	1
Total			15	15	15	5
Grand Total			69		31	

6th Semester

S.No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	CH-306	Applied Chemistry-III	3	3	3	1
2	CH-307	Applied Chemistry-III	3	3	3	1
3	CH-308	Applied Chemistry-III	3	3	3	1
4	CH-309	Applied Chemistry-III	3	3	3	1
5	CH-310	Applied Chemistry-III	3	3	3	1
Total			15	15	15	5
Grand Total			84		36	

7th Semester

S.No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	CH-401	Applied Chemistry-III	3	3	3	1
2	CH-402	Applied Chemistry-III	3	3	3	1
3	CH-403	Applied Chemistry-III	3	3	3	1
4	CH-404	Applied Chemistry-III	3	3	3	1
5	CH-405	Applied Chemistry-III	3	3	3	1
Total			15	15	15	5
Grand Total			99		41	

8th Semester

S.No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	CH-406	Applied Chemistry-III	3	3	3	1
Total			3	3	3	1
Grand Total			102		42	

** 4 -- 6 Weeks industrial internship mandatory (Non Credit) during summer vacations after 6th or 7th semester

DAE Course of Studies

First Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-111	Islamiat / Pakistan Study	1	-
2	Eng-112	English	2	-
3	Math-113	Applied Mathematics-I	3	-
4	Phy-113	Applied Physics	2	3
5	Comp-122	Computer Application	1	3
6	CHT-153	Basic Chemical Engineering	2	3
7	CHT-164	General Chemistry	2	6
8	Mt-143	Basic and Engineering Drawing & CAD-I	1	6

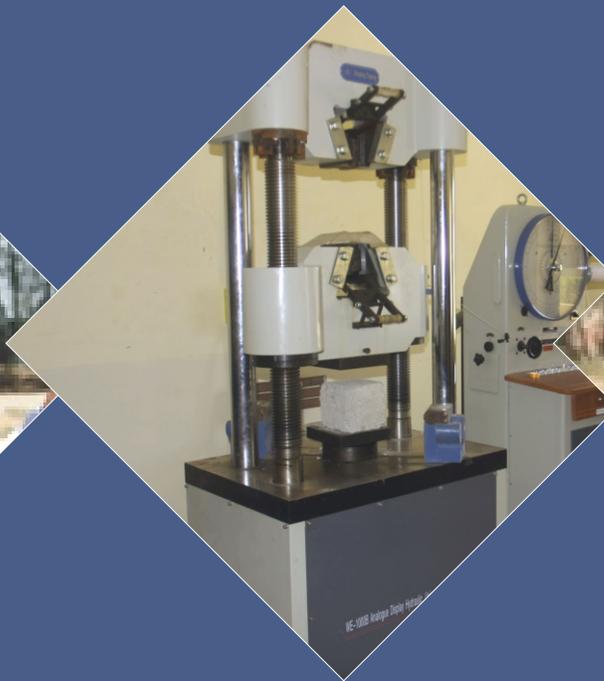
Third Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-311	Islamiat / Pakistan Study	1	-
2	Mgm-311	Business Management Human Relations	1	-
3	CHT-314	Instrumental Methods of Analysis	2	6
4	CHT-324	Industrial Chemical Process II	3	3
5	CHT-335	Chemical Engineering II	3	6
6	CHT-342	Process Instrumentation & Control	2	-
7	CHT-352	Chemical Technology Practice	-	6
8	CHT-362	Energy Conservation Pollution	1	3
9	CHT-372	Industrial Stoichiometry	2	-

Second Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-211	Islamiat / Pakistan Study	1	-
2	Math-223	Applied Mathematics II	3	-
3	Mgm-211	Business Communication	1	-
4	Mgm-221	Business Management & Industrial Economics	1	-
5	CHT-244	Organic Chemistry	2	6
6	CHT-254	Industrial Chemical Process I	3	3
7	CHT-263	Quantitative Analysis	1	6
8	CHT-271	Safety Practice & Procedure	1	-
9	CHT-283	Physical Chemistry	2	3
10	CHT-293	Chemical Engineering I	2	3





Programs Offered

- **B.Sc. Engineering Technology**
- **Diploma of Associate Engineer**

Introduction

The civil technology is concerned with designing and building construction projects including buildings, roads, dams, ports, tunnels and bridges.

Civil engineers are first and foremost, the creators of our today's world. They apply their talents to provide effective solutions to human needs: places to live, work and play, facilities for the provision of clean water, power and means of travel.

The course gives you opportunity to study the specialized area of surveying. The program combines study of modern surveying, measuring techniques alongside aspects of construction, contract management and the responsibilities of an associate engineer.

Civil technology covers a wide range of different areas of construction.

This is an exciting polytechnic diploma course designed to provide you with relevant knowledge, skills and experience.

This course is highly practical, with skills being developed by numerous hands-on surveying, construction, laboratory exercises, complementing the theory taught in the lectures.

The course provides the knowledge of nature and strength of engineering materials, the characteristics of water flow and behaviour of beams and trusses. The basic skills of engineering drawing are developed and there is an introduction to use of computers, including Computer Aided Design (CAD). There are laboratory exercises and survey projects.



Surveying Lab

Surveying Lab is basic civil technology laboratory during first and second year. The lab is equipped with traditional and latest modern surveying equipment like venire, microptic, and electronic theodolites, electronic total stations, auto level sets, plane tables, prismatic compasses and much more. Mostly survey practical exercises are performed in the field.

Plumbing Lab

Pipes are very essential part of any civil project. Proper execution of pipe network is very important for durability in a civil structure. Therefore a full-fledged plumbing lab has been established. The students perform different plumbing exercises using standard and modern tools.



Drafting Lab

It is very necessary for a good civil engineer to understand proper use of drafting instruments for manual preparation of engineering drawings. Drafting lab has about fifty drawing boards with all necessary instruments. The students are also do complex drawing exercises on computer using Auto Cad in CAD/CAM lab. Drafting Lab is also utilized by other technologies.

Construction Lab

Construction lab deals with structural engineering which provides basic and detailed information about structural analysis and design. In this lab students perform experiments related to construction materials like concrete students build square, cylindrical and rectangular concrete blocks with varying cement-sand ratio. Then different tests are performed on these blocks to measure its strength and durability. This lab is equipped with concrete mixer, different types of concrete moulds, weighing scales, oven, vibrating table and modern testing machine like compression testing machine

List of Civil Technology labs

1. SOIL MECHANICS LAB
2. ENVIRONMENTAL TECHNOLOGY LAB
3. SURVEYING LAB
4. STRENGTH OF MATERIALS & MATERIAL TESTING LAB
5. FLUID MECHANICS LAB
6. CONSTRUCTION LAB
7. COMPUTER LAB
8. DRAWING LAB



Chemical Technology

1st Semester						
Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	CTMA-101	Applied Mathematics	3	0	3	0
2	CT-102	Fundamentals of Computing	2	1	2	3
3	CTHU-103	Communication Skills-I	0	1	0	3
4	CTM-104	Engineering Geology	2	1	2	3
5	CT-105	Mechanics of Materials	2	1	2	3
6	CT-106	Professional Ethics	2	0	2	0
Total			11	4	11	12
Grand Total			15		23	

2nd Semester						
Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	C-107	Advanced Mathematics	3	0	3	0
2	C-108	General Chemistry	3	0	3	0
3	C-109	Engineering Mathematics	3	0	3	0
4	CL-110	Industrial Chemistry	3	0	3	0
5	C-111	Computer Graphics	3	0	3	0
6	C-112	Professional Ethics	2	0	2	0
Total			17	0	17	0
Grand Total			32		40	

3rd Semester						
Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	TMA-201	Advanced Mathematics	3	0	3	0
2	THU-202	Technical Drawing-II	3	0	3	0
3	T-203	Industrial Chemistry	3	0	3	0
4	T-204	Computer Graphics	3	0	3	0
5	T-205	Professional Ethics	2	0	2	0
Total			14	0	14	0
Grand Total			46		40	

4th Semester						
Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	C-206	Advanced Mathematics	3	0	3	0
2	C-207	Technical Drawing	3	0	3	0
3	C9b-208	Industrial Management	3	0	3	0
4	C-209	Advanced Mathematics	3	0	3	0
5	CL-210	Industrial Chemistry	3	0	3	0
6	C-211	Professional Ethics	2	0	2	0
Total			17	0	17	0
Grand Total			63		40	

5th Semester						
Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	T-301	Advanced Mathematics	3	0	3	0
2	T-302	Technical Drawing	3	0	3	0
3	T-303	Industrial Chemistry	3	0	3	0
4	T-304	Computer Graphics	3	0	3	0
5	T-305	Professional Ethics	2	0	2	0
Total			14	0	14	0
Grand Total			77		40	

6th Semester						
Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	TEN-306	Advanced Mathematics	3	0	3	0
2	TAR-307	Introduction to Architecture and Town Planning	3	0	3	0
3	T-308	Advanced Mathematics	3	0	3	0
4	T-309	Advanced Mathematics	3	0	3	0
5	T-310	Professional Ethics	2	0	2	0
Total			14	0	14	0
Grand Total			91		40	

7th Semester						
Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	T-401	Advanced Mathematics	3	0	3	0
2	T-402	Advanced Mathematics	3	0	3	0
3	T-403	Advanced Mathematics	3	0	3	0
4	T-404	Advanced Mathematics	3	0	3	0
5	T-405	Advanced Mathematics	3	0	3	0
Total			15	0	15	0
Grand Total			106		40	

8th Semester						
Sr. No	Course Code	Subject	Weekly Content Hours		Credit Hours	
			Theory	Practical	Theory	Practical
1	T-406	Advanced Mathematics	3	0	3	0
2	C-407	Advanced Mathematics	3	0	3	0
3	C-408	Stressed and Pre-Cast Concrete Technology	3	0	3	0
4	C-409	Advanced Mathematics	3	0	3	0
5	C-410	Professional Ethics	2	0	2	0
Total			14	0	14	0
Grand Total			120		40	

11 - 6 Weeks industrial internship mandatory (Non Credit) during summer vacations after 6th or 7th semester

DAE Course of Studies

First Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-111	Islamiat / Pakistan Study	1	-
2	Eng-112	English	2	-
3	Math-113	Applied Mathematics-I	3	-
4	Ch - 112	Applied Chemistry	1	3
5	Phy - 113	Applied Physics	2	3
6	Shop - 112	Workshop Practice	-	6
7	CT - 114	Surveying-I	2	6
8	CT - 123	Construction-I	2	3
9	CT - 133	Civil Drafting-I	1	6

Third Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-311	Islamiat / Pakistan Study	1	-
2	CT - 312	Project Management	2	-
3	CT - 322	Quantity Surveying-II	0	6
4	CT - 333	Public Health Engineering-II	2	3
5	CT - 344	Hydraulics & Irrigation	3	3
6	CT - 353	Railways, Docks, Harbors and Bridges	2	3
7	CT - 364	Concrete Technology and RCC Design	3	3
8	CT - 373	Soil Mechanics, Highways and Airports	2	3
9	CT - 381	Civil Engineering Project	0	3

Second Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-211	Islamiat / Pakistan Study	1	-
2	Math-213	Applied Mathematics II	3	-
3	Comp - 212	Computer Applications	1	3
4	CT - 212	Public Health Engineering-I	1	3
5	CT - 224	Surveying-II	2	6
6	CT - 233	Construction-II	2	3
7	CT - 243	Civil Drafting-II	1	6
8	CT - 253	Mechanics of Structures	2	3
9	CT - 262	Quantity Surveying-I	1	3





Programs Offered

● **Diploma of Associate Engineer**

Introduction

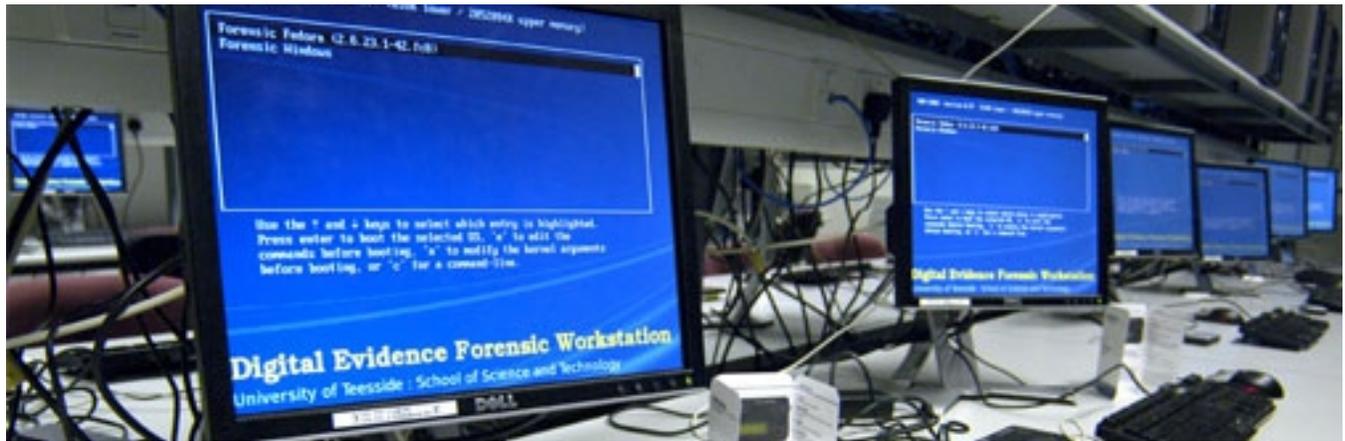
Computer Information Technology is an area of great scope and vitality. The developments in information technology have had a profound impact on many areas of industrial, commercial and personal life.

There are now far more computers in our planet than there are people. Computers are used in MP3 players; engine management; systems in the cars, aircraft navigation systems; automatic control systems in the industry and in every household like TV, DVD players microwave ovens and washing machines.

The skills you learn can be applied immediately after graduation.

Computers and information technology are essential to any organization today. People, who can program, implement and maintain computer-based systems are in constant demand.

Alongwith practical IT skills you will learn about personal computer technologies, the relationship between hardware and software. You will also learn how to create web pages. You will gain an understanding of the basic concepts of computer programming, computer networks and operating systems.



Computer Information Technology

Computer Lab

Computer lab is equipped with Pentium IV computers. All systems in the lab are connected to local area network. In this lab, students of Computer Information Technology learn basic concepts of operating system, perform structure and object oriented programming exercises, and create web pages.

This lab also provides an opportunity to students of other technologies to learn basics of computers in their first year.

Computer Hardware Lab

In hardware lab students disassemble and reassemble whole computer and install operating system and other softwares. Construction and working principle of each computer peripherals like power supply, hard disk drive, CD/DVD drive, keyboard, mouse, printers, scanner and monitor is taught in this lab..

Hardware and software troubleshooting exercises are given to students. Networking exercises are performed on local area network trainer. This lab has a Universal Programmer, used the program more than 3000 ICs like PROMS, EPROMS, Flashes, microcontrollers, PALs and PLAs



DAE Course of Studies

First Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-111	Islamiat / Pakistan Study	1	-
2	Eng-112	English	2	-
3	Math-123	Applied Mathematics-I	3	-
4	Phy -132	Applied Physics	1	3
5	CH -132	Applied Chemistry	1	3
6	OHSE -101	Occupational Health, Safety and Environment	0	0
7	CIT-112	Computer Application Software	0	6
8	CIT - 123	Introduction to Commuter Programming	2	3
9	CIT-131	General Engineering Workshop	0	3
10	CIT - 143	Linear Circuits and Basic Electronics	2	3

Third Year

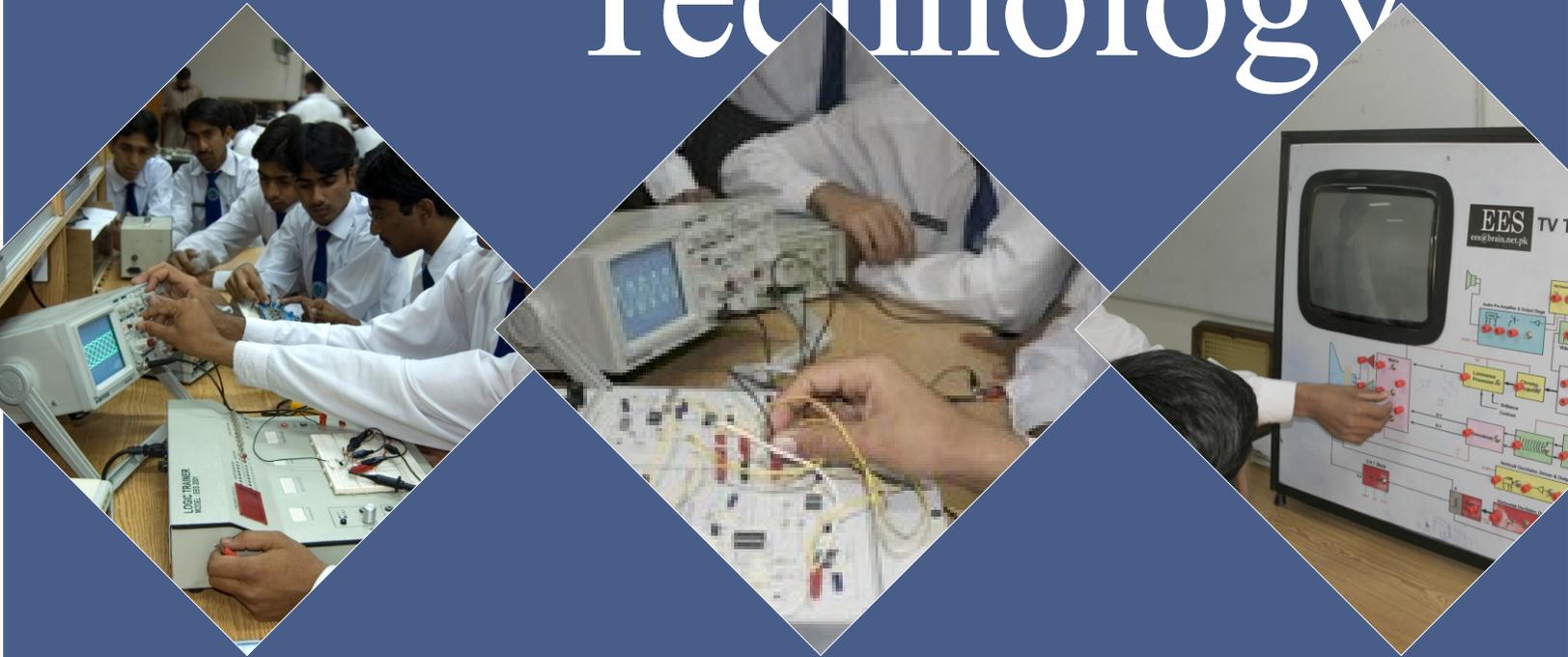
Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-311	Islamiat / Pakistan Study	1	-
2	Eng - 311	Technical Report Writing	1	-
3	Mgm - 331	Management	1	-
4	CIT - 313	Network Administration	2	3
5	CIT - 323	Operating System	2	3
6	CIT - 332	Web Page Development and e-Commerce	2	3
7	CIT - 342	PC System Architecture	2	-
8	CIT - 353	PC System and Peripherals Repair	1	6
9	CIT - 363	Project	0	9

Second Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-211	Islamiat / Pakistan Study	1	-
2	Mgm - 211	Business Communication	1	-
3	Math - 233	Applied Mathematics II	3	-
4	CIT - 213	Object Oriented Programming	2	3
5	CIT - 225	Microprocessor Architecture	3	6
6	CIT - 233	Data Communication & Networking	2	3
7	CIT - 243	Analogue Electronics	2	3
8	CIT - 253	Digital Electronics	2	3



Electronics Technology



Programs Offered

Diploma of Associate Engineer

Introduction

Electronics, from the simplest digital clock to complex computer networks, are found throughout today's society. Technological adventures in electronics technology have allowed highly sophisticated devices to become commonplace. Mobile phones, portable computers, complete telephone networks and MP3 and CD players are found everywhere. Electronic devices and systems are essential within modern healthcare programmes.

Electronics has a profound impact on many aspects of modern life including manufacturing industry, medicine, leisure activities, communications and information processing. Electronics represent the future of the technology. The electronics is probably the fastest growing branch of technology and electronic associate engineers are always in demand by the industry.



Basic Electronics Lab

Basic electronics lab provides facilities for very basic experiments like Ohm's law to experiments related to communication and TV. This laboratory is equipped with digital and analog electronics trainers, Oscilloscopes, frequency generators and counters, power supplies, communication trainers, ADC/DAC trainers, FM and AM radio trainer kits and wide range of multi meters, voltage, current, phase, power factor and light meters. This lab accommodates students of Electronics Technology but also caters to the needs of Telecommunication, Instrumentation and Computer Information technologies.



DAE Course of Studies

First Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-111	Islamiat / Pakistan Study	1	-
2	Eng-112	English	2	-
3	Math-123	Applied Mathematics-I	3	-
4	Phy -122	Applied Physics	1	3
5	Comp111	Computer Application Software	1	3
6	Elt-114	Electrical Essential & Networks	3	3
7	Elt-127 (a)	Electrical Drawing	-	3
8	Elt-127 (b,c)	General Engineering	-	9
		Fitting Shop	-	3
		Wood Work Shop	-	3
		Electrical Wiring	-	3
9	Elt-127 (e,f)	Radio Components, Application & Assembly	-	6

Second Year

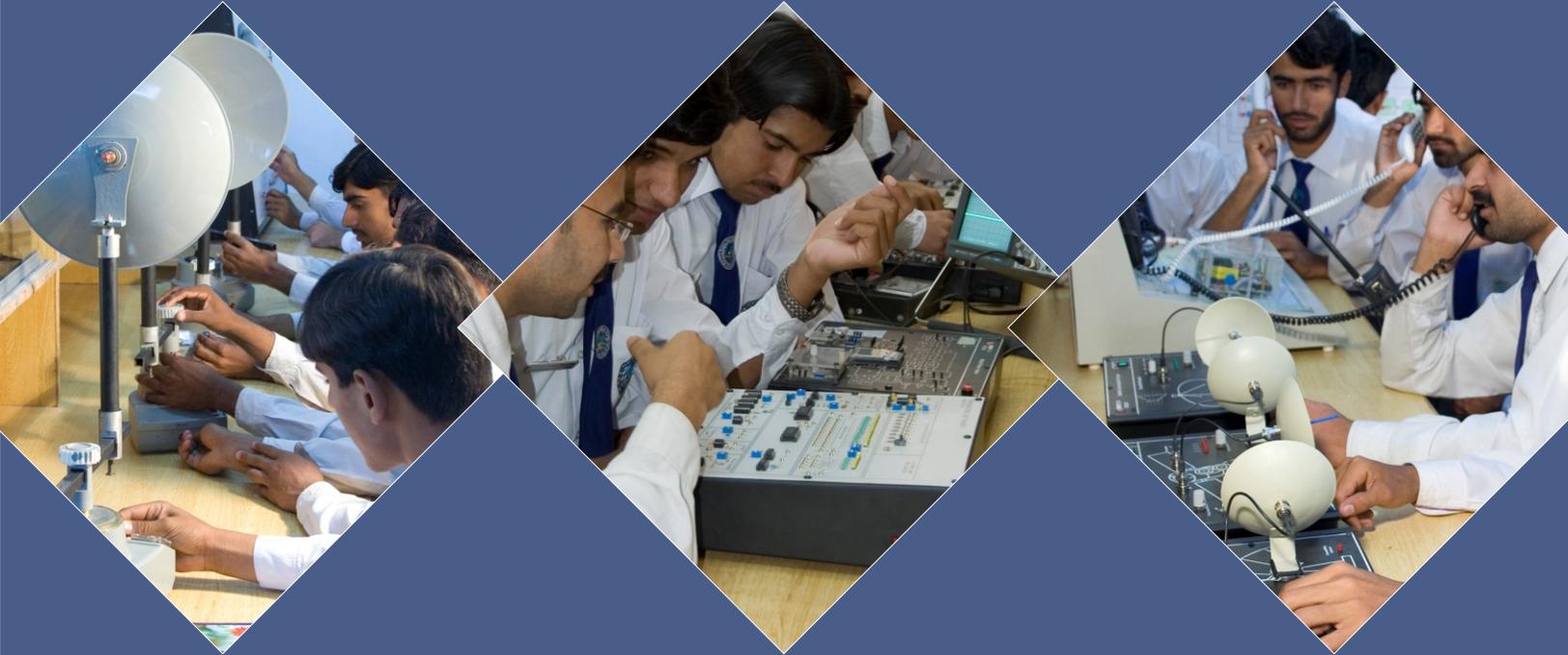
Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-211	Islamiat / Pakistan Study	1	-
2	Mgm-211	Business Communication	1	-
3	Mgm-221	Business Management & Industrial Economics	1	-
4	Math-233	Applied Mathematics II	3	-
5	Ch-222	Applied Chemistry	1	3
6	Elt-214	Electronics Devices & Circuits	3	3
7	Elt-222	Motors & Generators	1	3
8	Elt-233	Measuring Instruments	2	3
9	Elt-243	Pulse & Digital Circuits	2	3
10	Elt-252	Communication System I	1	3
11	Elt-264	Amplifier & Radio Receiver	2	6

Third Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-311	Islamiat / Pakistan Studies	1	-
2	Mgm-311	Industrial Management & Human Relations	1	-
3	Elt-312	Communication System – II	1	3
4	Elt-326	TV Circuit & Systems	3	9
5	Elt-333	Industrial Electronics	2	3
6	Elt-342	Antenna & Transmission Line	1	3
7	Elt-351	Microwave & Radar	1	-
8	Elt-363	Microprocessor & Microcomputer	2	3
9	Elt-372	Equipment Servicing Project	-	6



Telecommunication Technology



Programs Offered

● **Diploma of Associate Engineer**

Introduction

This century is age of communications. The whole world is interconnected by internet, mobile and fixed-line phone networks. Demand for broadband communication is increasing day by day. Video conferencing and especially video streaming is demanding very high speed telecommunication networks and techniques to transmit High Definition videos over internet and mobile phone networks.

The telecommunication technology comprises many types of networks including: radio, satellite, cable, infra red, optical fiber and microwave. Telecommunication and network technologies are crucial sectors of the worldwide digital information exchange. They involve highly complex designs, techniques and sophisticated equipment, requiring extensive study program at a fairly advance level.

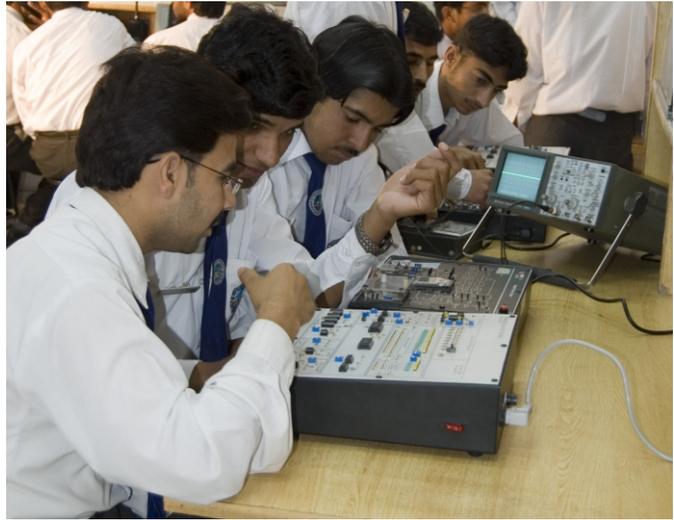
This course offers you an opportunity to study basic electronics circuits, digital & analog communication, types and techniques of different types of communication networks including internet, fixed-line and mobile communication networks. Particular attention is paid to the overgrowing field of telecommunications, especially line of sight systems, switching principles and communication planning.

The course provides job opportunities for the graduates in both public and private sectors such as Pakistan Railways, Cellular Phone companies, Computer related companies, Government and Private TV channels, SUPRACO, PTCL and many other organizations



Telecommunication Lab

The Telecommunication Lab is equipped with state of art training equipment. It has got a satellite communication trainer which simulates satellite communication system. The optical fiber trainer helps students to understand principles of signal transmission through optical fiber. This lab also has telephone, mobile phone, telephone exchange, transmission lines, color TV, microcontroller and antenna trainers. Here students perform experiments to learn basic techniques in mobile, satellite and telecommunication networks.



Telecommunication Technology

Course of Studies

First Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-111	Islamiat/Pakistan Studies	1	-
2	Eng-112	English	2	-
3	Math-123	Mathematics-I	3	-
4	Phy-132	Applied Physics	1	3
5	Comp- 112	Computer Application	-	6
6	ELT-114	Electrical Essential & Network	3	3
7	TC-112	Telecom Drawing	-	6
8	TC-122	General Engineering Fundamentals	-	6
9	TC-133	Telecommunication Fundamentals	2	3

Third Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen-311	Islamiat / Pakistan Studies	1	-
2	Mgt-311	Industrial Management	1	-
3	TC-313	Microprocessor Application	2	3
4	TC-322	Telecom Services & Terminal Equipment	1	3
5	TC-333	Telecom Networks	2	3
6	TC-343	Mobile Telecommunication	2	3
7	TC-353	Emerging Telecom Technologies	2	3
8	TC-364	Construction Practice & Project	2	6
9	TC-373	Maintenance & Quality of Service	2	3

Second Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen 211	Islamiat / Pakistan Studies	1	-
2	Math-233	Mathematics-II	3	-
3	Ch-222	Applied Chemistry	1	3
4	Mgm-221	Business Communication	1	-
5	TC-214	Electronic Devices and Circuits	3	3
6	TC-223	Digital Circuits & Microprocessor	2	3
7	TC-233	Measuring Instruments	1	3
8	TC-243	Switching System	2	3
9	TC-253	Transmission Systems	2	3
10	TC-263	Power Plant	2	3



Instrumentation Technology



Programs Offered

● **Diploma of Associate Engineer**

Introduction

Instrumentation technology is the branch of science that deals with measurement and control. An instrumentation is a device that measures or manipulates variables such as flow, temperature, level, or pressure. The instruments are used in each and every industry today. Instrumentation technology generally involves the practical application of pneumatic, electronic and microcomputer measurement and control systems. Students will learn how to work with various instruments, from mechanical float-level controls to complex computer-based modeling systems.

This course presents a combination of practical information and hands-on experiences covering proper techniques for installation, calibration, and maintenance of electronic instruments and procedures for configuring and calibrating transmitters, transducers, and controllers. Instrumentation technology course gives in depth knowledge of all instruments currently used in our industry.

Instrumentation technologists are always in demand by the industry and generally work on the practical application of pneumatic, electronic and microcomputer measurement and control systems. Examples of employers who consistently employ well-trained instrumentation personnel include oil and gas producers, chemical companies, electronics firms, food and beverage firms, and utilities.



Instrumentation Lab

A Process Control Trainer is heart of the Instrumentation laboratory. Students perform experiments on basic process control like temperature, pressure, level and flow. This trainer is equipped with different sensors, transducers, transmitters, valves and controllers.

This lab has a calibration bench for calibration of wide range of electrical and pneumatic instruments. Alarm and signaling trainer gives training of security related instruments and their control through PLC. The lab has also temperature, LVDT and, strain gauge trainers.



Course of Studies

First Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen - 111	Islamiat/Pak Studies1	1	-
2	Eng - 112	English	2	-
3	Phy - 113	Applied Physics	2	3
4	Ch - 123	Applied Chemistry	2	3
5	Math - 113	Applied Mathematics-I	3	-
6	Comp - 122	Computer Applications	1	3
7	IT - 113	Basic Engineering Drawing	1	6
8	IT - 124	Principles of Electricity & Electronics	3	3
9	IT - 133	Instrumentation Workshop Practice	1	6

Third Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen - 311	Islamiat/Pak Studies	1	-
2	Mgm - 311	Industrial Management & Human Relations	1	-
3	Mgm - 321	Business Communications	1	-
4	IT - 314	Industrial Instrumentation & Controls	3	6
5	IT - 323	Industrial Electronics	2	3
6	IT - 334	Analyzer/Special Instrument	2	3
7	IT - 343	Instrument Servicing and Calibration	1	6
8	IT - 352	Transducers, Censors & Detectors	1	3
9	IT - 361	Project	-	3

Second Year

Sr No	Subject Code	Subject Detail	No Periods Per Week	
			Theory	Practical
1	Gen - 211	Islamiat/Pak Studies	1	-
2	Mgm - 221	Business Management & Industrial Economics	1	-
3	Math - 233	Applied Mathematics-II	3	-
4	IT - 214	Process Variable Measurements	2	6
5	IT - 223	Semi-Conductor Devices & Electronics Circuits	2	3
6	IT - 234	Electrical & Electronic Measuring Instruments	2	6
7	IT - 244	Digital Circuits/Micro Processor Applications	2	6
8	IT - 252	Instrumentation Drawing	1	3
9	IT - 261	Safety Practice	1	-



General Sciences Facilities

There are basic sciences labs which are utilized by students of all technologies

Physics Lab

Physics Lab deals with three disciplines: Applied Physics, Applied Mechanics and Spectroscopy. In main Physics lab you perform general experiments related to basic concepts of physics, which are common in the first year of all technologies.

The Main lab is also used for applied Mechanics experiments for second year students of Mechanical Technology. The complete apparatus models and charts related to applied mechanics are also available in lab for guidance of students.

There is a separate spectroscopy lab to perform experiments of finding the wavelength of different lights and the angle of minimum deviation of prism by using spectrometer



Chemistry Lab

Chemistry Lab is used to perform practical exercises of Basic Chemistry, a common subject in all technologies. In chemistry lab complete range of chemical reagents are available for detection of acidic and basic radicals. Chemistry Lab has excellent facility regarding organic compound preparation, quantitative analysis of chemicals and testing of salts.



Rules and Regulations



- 
- Uniform
 - Fees Rules
 - Leave Rules
 - Hostel Rules
 - Library Rules
 - Code of Ethics
 - Disciplinary Action

Rules and Regulations

Uniform

All the students are required to attend the institute in proper uniform as follows:-

DAE

A) Summer

- *Institute Neck Tie (Prescribed colour/design)
- *White Shirt
- *Dark Grey Trousers
- *Black Shoes
- *Black Socks

B) Winter

Summer uniform with:

- *Navy Blue Jersey or
- *Navy, Blue, Blazer

B.Sc. Engg. Technology

A) Summer

- *Institute Neck Tie
- *Light Blue Shirt with Strips
- *Black Trousers
- *Black Shoes and Socks

B) Winter

- *Black Jersey or Black Blazer

Fee Rules

1. Fee including fines and other dues if any be deposited by 10th of each month.
2. Rs. 10/- per day will be fined in case of absence upto 07 days in a month.
3. Rs. 50/- per day will be find for remaining days of the month in case of absence.
4. Students name will be struck off the role if he fails in clearing his dues within two months.

Note: Board exam fee is to be charged when exam forms are submitted to the board.

Leave Rules for Students

1. 80% attendance is must to appear in PBTE annual examination, and 75% minimum attendance is required appear in UET final examination. Shortfall in attendance without sound reasons may cause stoppage of admission for said exam.
2. Institute observes only gazetted holidays with no local holiday.
3. Long absence without solid reasons may cause expulsion from the Institute.
4. Leave on medical ground will only be sanctioned if medical certificate issued by a recognized doctor is produced.
5. Leave availed without permission of Institute authorities will only be legalized if application endorsed by his Parents/guardian is submitted by giving the reasons for not informing the Institute in time.
6. No student is allowed to leave the classroom without permission of the teacher taking period at that time.
7. Students may visit office in short/long breaks or in games period and library periods for office work if necessary.
8. Short leave will be allowed only in case of emergency of some serious nature like death of actual near relative etc.
9. Dispenser will attend only those students who have written permission of teacher/HOD/ Chaiman during teaching period and Warden/PTI's permission in case of games period for first aid.
10. After working hours, warden's permission is must for sick report.

Hostel Rules

A boarder may be expelled from the hostel on any one of the following reasons:

- a. Involved in any grouping like political, religious, ethnic etc.
- b. Breach of discipline.
- c. Misbehavior with the staff, employees and fellow students.
- d. Any loss to the property of Institute.
- e. Disobeyance of rules of Institute/hostel enforced from time to time.
- f. Non payment of dues in time.
- g. Possession of fire arms, narcotic, objectionable literature or any other prohibited item.
- h. Gross religious extremism/intolerance.
- J. Any criminal act under Pakistan Penal Code.
- k. Any other act of indiscipline/turpitude.

Library Rules

Library contains mainly Technical books dealing with all technologies being taught in the Institute. It has also reasonable collection of reference and general books also.

It's meant for the use of faculty and students. Following rules will be observed strictly by the faculty members and students:

1. Reference books, magazine/periodicals will not be issued. These can be consulted in library only.
2. Course books will be issued to faculty members for a semester period and general books for 7 days only.
3. Students may get two course books at a time issued for a week only. Same will apply to general books.
4. Rs. 5/- per day will be charged as fine for each day after the return is due.
5. No book will be marked with pencil or ink.
6. Double price including fine will be charged for the lost books.
7. Any book torn out, damaged or marked will be treated as lost book and double price will be charged.
8. Books will be entered in issue/receipt register to be signed by the borrower.
9. Borrower has to make sure that books returned have been entered in respective column and signed by the librarian in his presence.
10. Proper receipt will be issued for the fine charged for late returned books.
11. Students will get clearance from library before issue of provisional/character certificate.
12. Faculty members to return all books before summer vacation and any time if leaving the Institute on termination of service/resignation.

Code of Ethics

(For the seekers and practitioners of Engineering and Technology)

IN THE NAME OF ALLAH, THE MOST MERCIFUL. THE BENEFICENT

You Shall be honest, faithful and just, and shall not act derogatory to the honour, integrity and dignity of the engineering profession.

You shall not maliciously, directly, injure the reputation or employment of another technical expert, nor shall you fail to act equitable while performing duty.

You shall use your knowledge and skills of engineering for human welfare and render professional service, which reflect you best professional service and your best professional judgment.

You shall not abuse your position or power, nor accept illegal gratification of any sort.

You shall faithfully observe and fulfill all your obligations.

You shall express your opinion on engineering or other matters in a frank, open and straight forward manner.

You shall not criticize other expert's work without his knowledge nor malign his professional reputation.

You shall not ridicule fellow expert nor let one discipline of engineering deride other disciplines or professions.

You shall not directly or indirectly discredit other experts, shall not assign professional (derogatory) epithets to their work.

Your professional advice shall be based on full knowledge of the facts and honest conviction.

You shall ascertain facts before accepting them and shall not encourage or cause other to carry tales/rumours.

You shall help one another in upholding and doing what is right.

You shall not associate with those who transgress and those who indulge in un-ethical practices.

You shall be kind and considerate to other and shall not fail to be cooperative and accommodative.

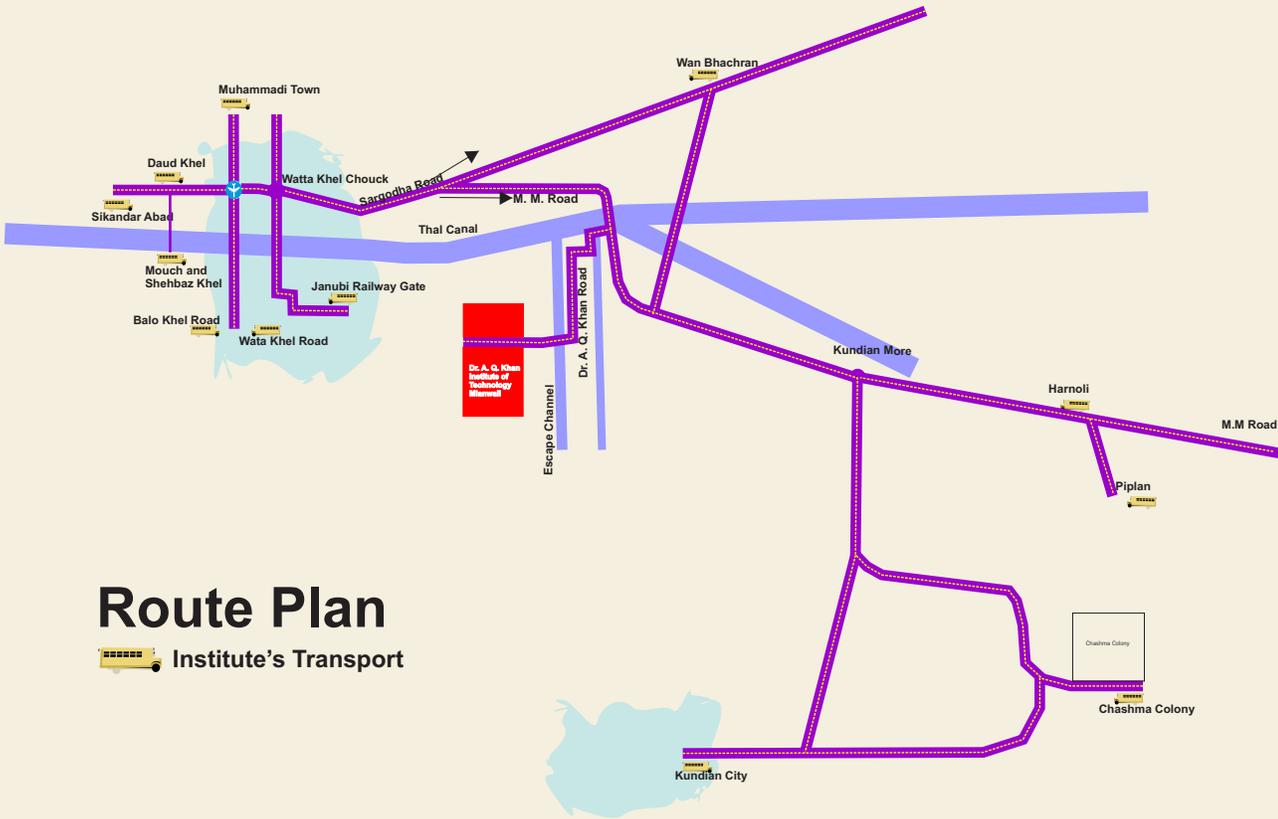
You shall decide matters of common professional interest by mutual consultation.

Disciplinary Action

Students are expected to observe high standards of professional norms and ethics in their conduct. The following will call for disciplinary actions:

- a. Disregard/Disobedience of rules and orders.
- b. Wilful defiance of Institute's authority whether alone or in association with others.
- c. Indulgence in activities detrimental to the interest and reputation of the Institute.
- d. Use of unfair means in the examination.
- e. Improper or riotous behavior in or outside the classroom, hostel/premises.
- f. Any act of dishonesty including submission of false documents or deceiving by any other means.
- g. Indulging in any act that is harmful to the teaching environment.
- h. Failure to meet the code of discipline, as laid down by the Institute.
- i. Award of third warning as a result of unsatisfactory academic performance.
- j. Non deposit of dues for consecutive two months.
- k. Long absence without any solid reason.

Failure to meet the disciplinary standards would require the student to appear before a Discipline Committee. The committee shall recommend suitable action against the student, concerned which may range from imposing penalties as deemed necessary to suspension/ debarring and termination from future study in the Institute. Principal's decision in all such matters will be final which shall not be challengeable in any court of law.



Route Plan

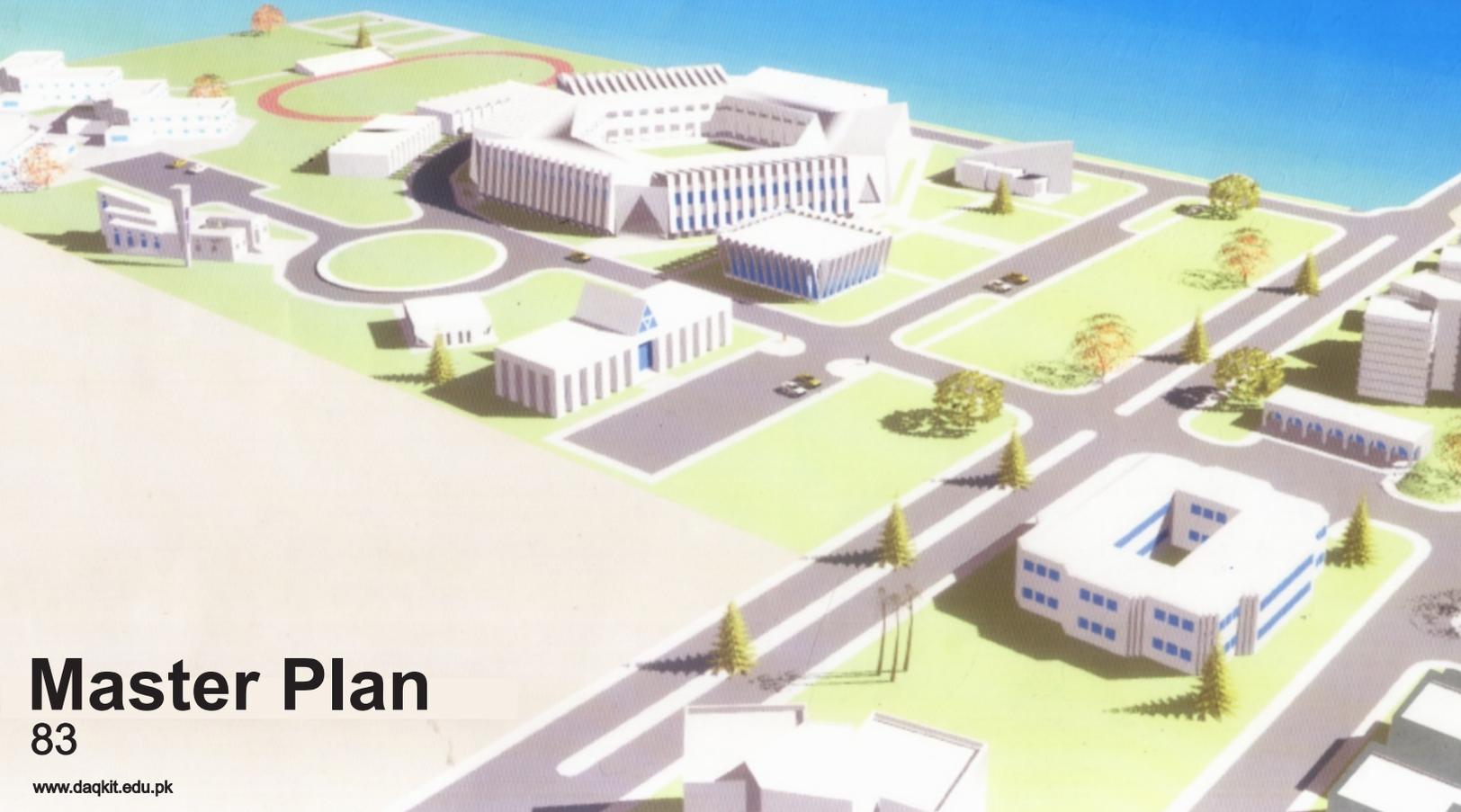
 Institute's Transport

Dr. A. Q. Khan Institute of Technology Mianwali

Location on Punjab Map



DR. A. Q. KHAN INSTITUTE OF TECHNOLOGY (KIT)



Master Plan

83

www.daqkit.edu.pk

DISCLAIMER

This prospectus is informational only and should not be taken as binding on the institute as each aspect thereof i.e the disciplines offered, management, the admission procedure /criteria, the fee structure, uniform, the examination regulations and all other rules, regulations etc requires continuous review by the competent authorities. This institute therefore, reserves the right to make appropriate change wherever necessary in the interest of the Institute or the students.



Dr. A. Q. Khan Institute of Technology

M. M. Road, Mianwali, Pakistan

Ph: (+92) (0459) 371111, 371113

Fax: (+92) (0459) 371010

web: www.daqkit.edu.pk

E-mail: info@daqkit.edu.pk