

**PROSPECTUS**

FOR

BACHELORS' DEGREE COURSES  
IN  
VARIOUS DISCIPLINES OF ENGINEERING,  
ARCHITECTURE AND  
CITY & REGIONAL PLANNING

SESSION 2012-2013 (13-BATCH)

Information about the University, Facilities, Disciplines,  
Fields of Study, Teaching, Examination Systems,  
Course contents, Rules and Regulations.

MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY  
JAMSHORO 76062, SINDH  
PAKISTAN  
[www.muett.edu.pk](http://www.muett.edu.pk)

AND

MEHRAN UNIVERSITY COLLEGE OF ENGINEERING  
AND TECHNOLOGY, KHAIRPURMIRS

AUGUST, 2012

## **1. Introduction**

### **1.1 Brief History**

Industrial and technological development in Pakistan has been quite rapid since its independence and particularly during the sixties and seventies. The main fields of development have been related to the enhancement of agriculture, establishment and up-gradation of industries and exploration of its indigenous resources. This development has resulted in increased demand for qualified engineers in different fields in addition to other professionals. In order to meet this demand and to provide an opportunity of engineering education to the people hailing from the interior of Sindh Province, Sindh University Engineering College was established in 1963 as a constituent college of University of Sindh in Jamshoro about 15 km. from Hyderabad on the right bank of river Indus.

The Education Policy of 1972 provided for up-gradation of the Sindh University Engineering College to the level of a University of Engineering and Technology. Accordingly, the college was first declared as an additional campus of the University of Sindh headed by a Pro-Vice-Chancellor in July 1976 and later upgraded to the level of a full fledged independent University on 1<sup>st</sup> March, 1977 through an ordinance issued by the Government of Sindh. The ordinance was later converted into an Act of the Provincial Assembly of Sindh Province. The new University was named as “Mehran University of Engineering and Technology”. Initially, the Additional Campus as well the Mehran University was established in the City of Nawabshah. However, in 1979, the Act of the University was amended and the seat of the University was retained at Jamshoro, while a constituent College titled ‘Mehran University College of Engineering and Technology’ was maintained at Nawabshah, to cater for the needs of the engineering education of upper Sindh. The Mehran University College of Engineering and Technology, Nawabshah, has also become an independent University in 1996, which has been renamed as ‘Quaid-e-Awam University of Engineering, Sciences and Technology’. Consequently, Mehran University of Engineering and Technology now exists only at Jamshoro, having territorial jurisdiction over the Hyderabad and Mirpurkachs Divisions of Sindh Province. Nevertheless, seats are still reserved for the candidates coming from other divisions of Sindh Province.

The number of students admitted to the First Year classes of all the under-graduate disciplines is 1053 out of which 1000 candidates are admitted from Sindh Province, including Karachi according to a precisely calculated ratio of population and other considerations. 34 applicants are admitted from other parts of Pakistan while 19 seats are reserved for the foreigners.

Most of the laboratories and workshops of the teaching departments are properly equipped and practical as well as demonstrational training is imparted to the students wherever applicable. Continuous efforts are ongoing to upgrade these facilities for the practical training and new equipment is acquired for this purpose. Additionally, training to the concerned staff is also organized within the University as well as outside. Every department has been provided adequate number of personal computers and Internet facilities for the training and use of the students and teaching staff.

The postgraduate courses were started in the University in 1978 leading to Master’s Degree, initially, in three branches. At present, courses are offered in the specialized

fields of 'Structural Engineering, Public Health Engineering, Telecommunication and Control Engineering, Manufacturing Engineering, Electrical Power Engineering, Chemical Engineering, Transportation Engineering, Irrigation and Drainage Engineering, Information Technology, Computer Systems Network, Industrial Engineering & Management, Textile Engineering, Environmental Engineering & Management, Geo-technical Engineering and Construction Management and Planning. Some courses are offered full time during the day while others are conducted during the evenings. The degrees to be awarded may be Post-graduate Diploma (P.G.D.), Master of Engineering (M.E.), Master of Science (M.S), Master of Philosophy (M. Phil.) or Doctor of Philosophy (Ph.D.); depending upon the quality and quantity of the research/work completed.

Post-graduate studies and research are organized by various departments as well as the following specialized institutes.

- Institute of Water Resource Engineering & Management
- Institute of Environmental Engineering and Management
- Institute of Petroleum & Natural Gas Engineering
- Institute of Information & Communication Technologies
- Mehran University Institute of Science & Technology Development
- Directorate of Post-graduate Studies

More details about the Post-graduate courses, curricula, duration, fees, etc., are provided separately in the Prospectus of Post-graduate studies; which may be obtained from the office of the Director, of the Institute concerned.

Hostel facilities are also available for about 1000 students on the campus both male and female; which are located at walking distance from the teaching departments. These hostels are equipped with necessary facilities including bathrooms, reading rooms, game rooms, dining halls, etc.

More details of the facilities available for the students are described in Chapter 5; which include medical care, transport, games and recreation, Library and so on.

## **2. Fields of Study and Teaching System**

### **2.1 Fields of Study**

Mehran University offers courses leading to Bachelors' degrees in the following disciplines. All but two Degrees are in a field of Engineering and are titled Bachelor of Engineering.....(Name of a field); e.g. B.E. Civil. The remaining two are non-engineering degrees but in related fields; i.e. Bachelor of Architecture (B.Arch.) and Bachelor of City & Regional Planning (B.CRP). The names of all the undergraduate disciplines are also given below:

1. *Architecture*
2. *Bio-Medical Engineering*
3. *Chemical Engineering*
4. *Civil Engineering*
5. *City & Regional Planning*
6. *Computer Systems Engineering*

7. *Electrical Engineering*
8. *Electronic Engineering*
9. *Environmental Engineering*
10. *Industrial Engineering & Management*
11. *Mechanical Engineering*
12. *Metallurgy & Materials Engineering*
13. *Mining Engineering*
14. *Petroleum & Natural Gas Engineering*
15. *Software Engineering*
16. *Textile Engineering*
17. *Telecommunication Engineering*

Teaching is offered in three main faculties; the Faculty of Engineering, the Faculty of Electrical, Electronic & Computer Engineering and Faculty of Architecture and Civil Engineering. Out of Fifteen degree courses leading to an engineering degree Seven Engineering degrees are taught in the respective departments under the Faculty of Engineering whereas six engineering courses are taught in the respective departments under the Faculty of Electrical, Electronic & Computer Engineering. Two Engineering and Two other non-engineering courses are taught under the Faculty of Architecture and Civil Engineering. A 4<sup>th</sup> Faculty called Faculty of Science, Technology & Humanities also exists in the University; which comprises B.Tech.(Pass) & B.Tech (Hons.) courses taught at the Government College of Technology, Hyderabad and Hyderabad College of Science & Technology, Hyderabad. At present, these are only two colleges of technology falling within the jurisdiction of Mehran University.

## 2.2 Teaching System

Courses for all the Engineering degrees and B.CRP are of four-year duration; while the remaining of B.Arch. is of five-year duration. Each year is divided into two six-monthly Terms in which five or six subjects are taught and the examinations are held after completion of teaching. The duration of a Term is further specified as under:

Teaching	16 weeks
Examination preparation	02 weeks
Examinations	04 weeks
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Total:	22 weeks
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This arrangement of teaching is named as Term System. In addition to specific subjects related to a given field of study, some general subjects are also taught to the students in different terms. Some of these subjects are; English, Pakistan Studies, Islamic Studies/Ethics, etc. Many courses of Applied Mathematics and Statistics are also included in the syllabus, which form the basis for many branches of engineering and architecture. Workshop Practice is also taught to students of many disciplines of engineering; since it is considered to be a basic requirement for the engineering education. Similarly, engineering drawing in various forms is taught to the students of Mechanical, Electrical, Civil, Electronics and other branches as per their requirements. In the final year, the students are also required to complete a project of significant duration and work load; which may be original research, design/development of a product or a literature survey on an specific topic.

After satisfactory completion of the courses in all respects including sessional and laboratory work and passing of all the examinations held by the University from time to time, the bachelor's degree is awarded. The field of study is also specified in the certificate. Examinations are conducted after each Term (every six months).

### **2.3. OFFICERS OF THE UNIVERSITY**

Following are the main Officers of the University, responsible for over all administration, academic activities and development work in the University.

<b>Sr.No.</b>	<b>Post</b>	<b>Name</b>	<b>Phone</b>
1.	Vice-Chancellor	Prof. Dr. Abdul Qadeer Khan Rajput	022-2771197
2.	Pro Vice-chancellor	Prof. Dr. Muhammad Aslam Uqaili	022-2771360
3.	Dean, Faculty of Engineering	Prof. Dr. Abdul Ghani Pathan	022-2771312
4.	Dean, Faculty of Electrical, Electronic & Computer Engineering.	Prof. Dr. Bhawani Shankar Choudhary	022-2771558
5.	Dean, Faculty of Science, Technology & Humanities.	Prof. Dr. Pir Roshan Shah Rashdi	022-2771352
6.	Dean, Faculty of Architecture and Civil Engineering.	Prof. Dr. Ghous Bux Khaskheli	022-2771638
7.	Principal, MUCET, Khairpurmirs	Prof. Dr. Mujeeb-uddin Memon	0243-714005
8.	Registrar	Prof. Dr. Tauha Hussain Ali	022-2771371
9.	Director Finance	Mr. Muneer A. Shaikh	022-2771442
10.	Controller of Examinations	Prof. Gul Hassan Memon	022-2771631
11.	Incharge Librarian	Mr. Azam Ali Halepota,	022-2771169
12.	Resident Auditor	Mr. Gangwani Lachmandas .P. Sootahar	022-2772285
13.	Director Planning & Development	Mr. Ashfaque Ahmed Issani	022-2771254

### **3. FACULTY OF ENGINEERING**

The Faculty of Engineering comprises Seven teaching departments offering Bachelor's as well as Postgraduate degrees in the respective branches of the Engineering. Relevant information about all these departments briefly is provided below.

#### **3.1 Department of Chemical Engineering**

The Chemical Engineering Department was established in 1970 in the Institute of Chemistry, University of Sindh, Jamshoro. Prof. Dr. Syed Wadal Shah was the founder of the Department. The Scheme envisaged providing teaching and training facilities at the undergraduate level in the field of Chemical Engineering. After one year, the department was shifted to "Sindh University Engineering College" Jamshoro.

Chemical Engineering mainly concerns with research and development, design, manufacture, operation, management, maintenance and environmental control of an industrial plant or a laboratory involving chemical and biochemical processes. It is multi-disciplinary field having a significant level of mechanical, electrical, electronic and instrumentation components in addition to process equipment. Chemical engineers have also to deal with bio-chemical, environmental and materials problems. The Bachelor's degree course has been designed accordingly to train the students in all these fields including the basic subjects such as English, Chemistry and more specialized subjects of chemical engineering. Well-equipped and relevant laboratories have been established in the Department for practical training of the students. In addition, industrial tours to chemical and biochemical industries are organized for the students in order to expose them to real plants working conditions.

The first Batch of 31 students graduated in 1974, since then the Department of Chemical Engineering has been producing versatile Chemical Engineers of high caliber who are serving various national and multinational organizations in Pakistan & Overseas to the best of their talents and capabilities. At present nearly 450 students are registered in the degree program of chemical engineering with intake of 120 students every year. Very good faculty including 5 Ph.d and 13 Masters are available to inculcate the basic knowledge of chemical and biochemical engineering to the students.

The Chemical Engineering Department also offers a postgraduate course leading either to a Diploma or Master of Engineering (M.E.) degree; the later also includes a dissertation based on research or some other kind of study of a problem or task of practical in nature. The department has also manpower and laboratory facilities to undertake research leading to M.Phil. and Ph.D. degrees. Currently 10 PhD and 30 ME students are enrolled in postgraduate program & carrying out the research in areas of chemical processing, bioprocess engineering, industrial pollution, polymers, energy & combustion in collaboration with reputable national & international institutions. The Department has number of research groups working in important areas of chemical engineering with national and international collaboration. These includes Waste Treatment and Management (WTM); Heat Transfer & Combustion (HTC); Water and Wastewater Treatment (WT); Bio Engineering (BE), and Membrane Technology (MT).

The Department has also secured few international collaboration programs to enhance the standard of higher education. Currently, through Pak-US joint Academic and Research Programme (2009-2012) the Chemical Engineering of MUET has developed partnership with Institute of Chemical and Environmental Engineering, University of Arizona, USA

to conduct research on water treatment of ground water by using the Iron ore for removal of arsenic.

An international training course on problems of Arsenic in Sindh and Remediation was organized by Chemical Engineering department in 2011.

We have established linkage with Brunel University U.K under BC-HEC linkage program (2007-2009). Under this program various activities were carried out that includes the faculty visit to Brunel University, conferences, seminars, workshops & training courses and research on "Waste Management". Through DeIPHE research project on Urban Water Demand Management (2008-2010), an international conference on Sustainable Water Management was organized at MUET Jamshoro in September, 2010, which was participated by more than 300 delegates including 28 foreign delegates from USA, UK, Australia, Austria, Germany, The Netherlands, Nepal, India, Indonesia, Malaysia and Bangladesh. The department also organized the professional development training courses on Maintenance Management System (MMS) in 2006, introduction to HYSYS 3.2 for Process Engineers in 2011, 2012.

We have also established Sustainable Development Research Cell (SDRC) in the department, which carry out national and international research program on water, energy and other natural resources. Recently, we have established Water Quality Laboratory, in which we have sophisticated equipment like HPLC and Atomic Adsorption, spectrometer and other facilities to conduct water quality analysis tests.

### **3.1.1. Teaching Staff of Chemical Engineering Department**

Following teaching staff is presently working in the department of Chemical Engineering.

1. Chairperson of the Department Prof. Dr. Khadija Qureshi,  
Ph:022-2771642, 022-2771262  
email: [Cchairperson\\_ch@admin.muett.edu.pk](mailto:Cchairperson_ch@admin.muett.edu.pk)  
website: [www.muett.edu.pk](http://www.muett.edu.pk)
2. Professors: Dr. Khadija Qureshi  
Dr. Sayed Farman Ali Shah  
Dr. Suhail Ahmed Soomro  
Dr. Shaheen Aziz Shaikh
3. Associate Professor:
4. Assistant Professors: Mr. Ashfaq Hussain Pirzada  
Mr. Inamullah Bhatti  
Dr. Abdul Rehman Memon  
Ms. Aziza Aftab (on study leave)  
Ms. Zeenat M. Ali (on study leave)  
Mr. Manzoor-ul-Haq (on study leave)  
Mr. Khan Muhammad Qureshi (on study leave)  
Mr. Zulfiqar Ali Bhatti  
Mr. Muhammad Shuasib Shaikh (on study leave)

5. Lecturers: Mr. Imran Nazeer Unar  
Mr. Masroor Ahmed Abro  
Mr. Zulfiqar Ali Solangi

### 3.1.2 Courses of Studies for B.E. Chemical Engineering

No.	Name of Subject	Marks		
		Theory	Practical	Total

#### FIRST YEAR

##### First Term

1.	Islamic Studies/Ethics	50	00	50
2.	Pakistan Studies	50	00	50
3.	Applied Calculus	100	00	100
4.	Engineering Drawing & Graphics	100	50	150
5.	Chemistry-I	100	50	150
6.	Basic Chemical Engineering	100	00	100
7.	Workshop Practice	00	100	100
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

##### Second Term

8.	Functional English	100	00	100
9.	Linear Algebra & Analytical Geometry	100	00	100
10.	Engineering Mechanics	100	50	150
11.	Basic Electrical Technology	100	50	150
12.	Chemical Process Technology-I	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

#### SECOND YEAR

##### Third Term

13.	Differential Equations & Fourier Series	100	00	100
14.	Material Science	100	00	100
15.	Chemical Engineering Thermo-I	100	50	150
16.	Chemical Process Technology-II	100	50	150
17.	Unit Processes	100	50	150
18.	Chemistry-II	100	50	150
	<b>Total</b>	<b>600</b>	<b>200</b>	<b>800</b>

##### Fourth Term

19.	Complex Variables & Laplace Transforms	100	00	100
20.	Introduction to Computers & C ++ Programming	100	50	150
21.	Industrial Stoichiometry-I	100	00	100
22.	Unit Operations-I	100	50	150



23.	Chemical Engineering Thermo-II	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

### THIRD YEAR

#### Fifth Term

24.	Maintenance Engineering	100	00	100
25.	Fuels & Combustion	100	50	150
26.	Industrial Stoichiometry-II	100	00	100
27.	Fluid Mechanics	100	50	150
28.	Unit Operations-II	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

#### Sixth Term

29.	Heat Transfer	100	50	150
30.	Numerical Analysis & Computer Applications	100	50	150
31.	Chemical Engineering. Plant Design & Economics	100	00	100
32.	Unit Operations-III	100	50	150
33.	Quality Control	100	50	150
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

### FINAL YEAR

#### Seventh Term

34.	Transport Phenomena	100	00	100
35.	Instrumentation & Control	100	50	150
36.	Petroleum Refinery Engineering	100	50	150
37.	Environmental Engineering	100	50	150
38.	Bio-Chemical Engineering	100	50	150
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

#### Eighth Term

39.	Petro-Chemicals	100	50	150
40.	Chemical Engineering Kinetics	100	00	100
41.	Nuclear Engineering	100	00	100
42.	Industrial Management	100	00	100
43.	Thesis/Project	00	200	200
	<b>Total</b>	<b>400</b>	<b>250</b>	<b>650</b>

### 3.2 Department of Industrial Engineering & Management

Industrial engineering is a rapidly developing and broad professional discipline. It deals with design, installation operation and management of integrated systems of people, material, and equipment, drawing upon specialized knowledge of physical and social sciences and technology. It especially deals with managerial problems requiring knowledge of fundamental science and engineering practice for their solutions.

Industrial engineering figures out of how to do things better. They are more concern with increasing productivity through the management of people, methods of business organization and technology. They work to eliminate waste of time, money, materials, energy and other commodities. This is why many industrial engineers end up being promoted into management positions.

Another important feature of industrial engineering is its flexibility. Industrial engineering is not restricted only to manufacturing activities. It includes service sectors, like, Airlines, banking, education, waste-management, health-care, transportation, distribution, etc. Thus, the scope of industrial engineering is quiet big and certainly not restricted within the boundary of industry (factory).

Department of Industrial Engineering and Management offer the degree course, taking into consideration the technical and professional requirements of the discipline and prospective employer organizations. The department is equipped with adequate number of laboratories in the field of Quality Control, Time and Motion Study, Operations research, Computer Aided Engineering with sophisticated softwares. The department has also launched a postgraduate program since 2004.

### **3.2.1 Teaching Staff of Industrial Engineering & Management Department**

Following teaching staff is presently working in the department of Industrial Engineering & Management.

1. Chairman of the Department: Prof. Dr. Hussain Bux Marri  
Phone: +92 22 2771247  
Email: hussain.marri@yahoo.co.uk
2. Professors: Dr. Riaz Ahmed Sohag  
Dr. Hussain Bux Mari  
Dr. Murlidhar Nebhwani
3. Associate Professor: Mr. Aitbar Ali Abbasi
4. Assistant Professors: Mr. S. Aijaz Ali Shah  
Mr. Siraj Ahmed Abbasi  
Mr. Ghulam Yasin Shaikh  
Mr. Abdul Qayoom Lakhari  
Dr. Abdul Salam Soomro  
Mr. Mukhtiar Ali Korai  
Mr. Muhammad Saleh Jumani  
Mr. Karim Bux Indhar
5. Lecturers: Mr. Shakeel Ahmed Shaikh  
Mr. Muhammad Ali Khan  
Ms. Sonia Irshad Mari  
Mr. Muhammad Saad Memon  
Mr. Ali Arsalan Siddiqui

### **3.2.2 Courses of Studies for B.E. Industrial Engineering & Management**

No.	Name of Subject	Marks		
		Theory	Practical	Total

## FIRST YEAR

### First Term

1.	Applied Calculus	100	00	100
2.	Islamic Studies/Ethics	50	00	50
3.	Pakistan Studies	50	00	50
4.	Industrial Economic and Management	100	00	100
5.	Engineering Drawing & Computer Graphics	100	50	150
6.	Electrical Technology	100	50	150
	<b>Total</b>	<b>500</b>	<b>100</b>	<b>600</b>

### Second Term

7.	Linear Algebra, Differential Equations and Analytical Geometry	100	00	100
8.	Basic Business Management	100	00	100
9.	Functional English	100	00	100
10.	Mechanics of Materials	100	50	150
11.	Manufacturing Processes	100	100	200
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

## SECOND YEAR

### Third Term

12.	Managerial Accounting	100	00	100
13.	Management Information Systems	100	00	100
14.	Mechanics of Machines	100	50	150
15.	Basic Thermodynamics	100	50	150
16.	Introduction to Computer & C++ Programming	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

### Fourth Term

17.	Numerical Analysis & Com Application (N.A.C.A)	100	50	150
18.	Industrial Probability and Estimation	100	50	150
19.	Materials & Processes	100	50	150
20.	Basic Machine Design	100	50	150
21.	Fluid Mechanics	100	50	150
	<b>Total</b>	<b>500</b>	<b>250</b>	<b>750</b>

## THIRD YEAR

### Fifth Term

22.	Industrial Management & Safety	100	00	100
23.	Production Planning and Control	100	00	100
24.	Basic Operations Research	100	50	150
25.	Manufacturing Strategy	100	00	100
26.	Instrumentation & Control	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

### Sixth Term

27.	Organizational Behavior	100	00	100
28.	Work Study & Methods Engineering	100	50	150
29.	Manufacturing Facilities Planning and Design	100	50	150
30.	Project Management	100	50	150
31.	Environmental Management	50	00	50
	<b>Total</b>	<b>450</b>	<b>150</b>	<b>600</b>

### FINAL YEAR

#### Seventh Term

32.	Human Resources Management	100	00	100
33.	Human Factors Engineering	100	50	150
34.	Advanced Operation Research	100	50	150
35.	Entrepreneurship	100	00	100
36.	Supply Chain and Logistical Management	100	00	100
	<b>Total</b>	<b>500</b>	<b>100</b>	<b>600</b>

#### Eighth Term

37.	Quality and Reliability Control	100	00	100
38.	Marketing Principles and practices	100	00	100
39.	Principles of Decision Making	100	00	100
40.	Computer Integrated Manufacturing	100	50	150
41.	Dissertation/Project	00	200	200
	<b>Total</b>	<b>400</b>	<b>250</b>	<b>650</b>

### 3.3 Department of Mechanical Engineering

Mechanical Engineering is a professional engineering discipline that involves the application of principles of maintenance of mechanical systems. It requires a solid understanding of key concepts including mechanics, kinematics, thermodynamics and energy. Practitioners of mechanical engineering, known as mechanical engineers, use these principles and others in the design and analysis of automobiles, aircraft, heating & cooling systems, buildings, bridges, industrial equipment, machinery and more.

Department of Mechanical Engineering offers the degree course titled “Bachelor of Engineering”. It offers several major subjects of study. This is to ensure a minimum level of competence among graduating engineers and to inspire confidence in the engineering profession as a whole. Fundamental subjects of mechanical engineering include:

- \* Engineering Mechanics, Strength of Materials
- \* Instrumentation & Control
- \* Thermodynamics, Heat Transfer, Energy Technology, Refrigeration & Air Conditioning.
- \* Fluid Machinery and Aerodynamics
- \* Design of Mechanical Systems
- \* Manufacturing Technology
- \* Engineering Design
- \* Mechatronics
- \* Computer Aided Design and Drafting
- \* Computer Aided Manufacturing
- \* Mechanical Vibrations

Mechanical engineers are required to comprehend the physical interpretation of basic and advanced applied mathematical concepts and apply these ideas to solve diverse real world engineering problems. Mechanical engineers are also expected to understand and be able to apply basic concepts of calculus, as well as advanced mathematical concepts which may include differential equations, partial differential equations, Laplace, Fourier transforms, linear algebra, modern algebra and differential geometry.

The Mechanical Engineering program also entails varying amounts of research and community projects to gain practical problem-solving experience. Mechanical engineering students usually avail one or more internships during their course of study. The theory classes of many subjects are being supported by the practical work for which different laboratories are established. Most of the practicals are associated with various design and simulation software such as CATIA, Pro-E, Ansys, Fluent, Solid Edge, MATLAB, ADAMS etc. The Mechanical Engineering Workshop also includes facilities for training in traditional machining, fitting, forging, foundry, welding, and wood working. The training is not restricted to the students of Mechanical Engineering only but the students of other disciplines also undergo training in the workshop. The Workshop has also been upgraded with the latest addition of CNC lathe and milling machines, in order to provide advanced training facilities to the students.

The department also offers evening program of Postgraduate Diploma (P.G.D) and Master of Engineering (M.E) in Manufacturing Engineering and Energy Systems Engineering.

### **3.3.1 Teaching Staff of the Department of Mechanical Engineering**

Following teaching staff is presently working in the department of Mechanical Engineering.

- |    |                            |  |
|----|----------------------------|--|
| 1. | Chairman of the Department | Prof. Dr. Hassan Ali Khan Durrani<br>Phone No. 022-2771275   |
| 2. | Professors:                | Dr. Mujeeb-u-ddin Memon (On lien)<br>Dr. Khanji Harijan<br>Dr. Hassan Ali Khan Durrani<br>Dr. Rizwan Ahmed Memon |

3. Associate Professors: Mr. Ashfaqe Ahmed Memon  
Mr. Rafique Ahmed Nizamani  
Mr. Jameel Hussain Kahliqdina
4. Assistant Professors: Mr. Shoukat Ali Memon  
Mr. Abdul Samad Memon  
Mr. Muhammad Jurial Sangi  
Mr. Muhammad Sharif Jamali  
Mr. Ghulam Yasin Mughal  
Mr. Abdul Fatah Abassi  
Mr. Muhammad Atif Qaimkhani  
Mr. Abdul Ghafoor Memon (on study leave)  
Dr. Dur Muhammad Pathan  
Mr. Imtiaz Ali Memon  
Mr. Abdul Razaque Sahito (on study leave)  
Dr. Zeeshan Ali Memon
5. Lecturers: Mr. Jawaid Ahmed (on study leave)  
Mr. Javed Rehman Larik  
Mr. Tanweer Hussain Phulpoto  
Mr. Zainul-ul-Abdin Qureshi

### 3.3.2 Teaching Staff of Mechanical Engineering Workshop

1. Workshop Superintendent: Mr. Muhammad Sarwar Siddiqui  
Phone No. 022-2771218
2. Senior Workshop Instructors: Mr. Ameer Ali Memon  
Mr. Mujeeb Iqbal Soomro
3. Workshop Instructors: Mr. Pir Jawed Ahmed Sarhandi  
Mr. Jamil Ahmed Mangi  
Mr. Jamaluddin Vinjhar  
Mr. Afaqe Rafique Memon

### 3.3.3 Courses of Studies for B.E Mechanical Engineering

#### FIRST YEAR

#### First Term

No.	Subject	Marks		
		Theory	Practical	Total
1	Islamic Studies/Ethics	50	00	50
2	Pakistan Studies	50	00	50
3	Applied Calculus	100	00	100
4	Engineering Drawing & Graphics	100	50	150
5	Engineering Statics	100	50	150
6	Workshop Practice	00	100	100
	<b>Total</b>	<b>400</b>	<b>200</b>	<b>600</b>

#### Second Term

No.	Subject	Marks		
		Theory	Practical	Total
7	Functional English	100	00	100
8	Linear Algebra, Differential Equations and Analytical Geometry	100	00	100
9	Engineering Materials	100	00	100
10	Engineering Dynamics	100	00	100
11	Electrical Technology	100	50	150
	<b>Total</b>	<b>500</b>	<b>50</b>	<b>550</b>

**SECOND YEAR**  
**Third Term**

No.	Subject	Marks		
		Theory	Practical	Total
12	Complex Variables & Transforms	100	00	100
13	Strength of Materials-I	100	50	150
14	Mechanics of Machines-I	100	00	100
15	Thermodynamics-I	100	50	150
16	Basic Electronics	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

**Fourth Term**

No.	Subject	Marks		
		Theory	Practical	Total
17	Introduction to Computers & C++ Programming	100	50	150
18	Strength of Materials-II	100	50	150
19	Thermodynamics-II	100	50	150
20	Fluid Mechanics-I	100	50	150
21	Mechanics of Machines-II	100	50	150
	<b>Total</b>	<b>500</b>	<b>250</b>	<b>750</b>

**THIRD YEAR**  
**Fifth Term**

No.	Subject	Marks		
		Theory	Practical	Total
22	Numerical Analysis & Computer Applications	100	50	150
23	Automobile Engineering	100	50	150
24	Energy Technology	100	00	100
25	Manufacturing Technology-I	50	100	150
26	Fluid Mechanics-II	100	50	150
	<b>Total</b>	<b>450</b>	<b>250</b>	<b>700</b>

**Sixth Term**

No.	Subject	Marks		
		Theory	Practical	Total
27	Instrumentation & Control	100	50	150
28	Environmental Engineering	100	50	150
29	Statistical Methods & Estimations	100	00	100
30	Lubrication & Friction	100	00	100
31	Machine Design & Computer Aided Design-I	100	50	150
32	Industrial Economics & Management	100	00	100
	<b>Total</b>	<b>600</b>	<b>150</b>	<b>750</b>

**FINAL YEAR  
Seventh Term**

No.	Subject	Marks		
		Theory	Practical	Total
33	Aerodynamics	100	50	150
34	Heat Transfer	100	50	150
35	Mechatronics	100	50	150
36	Machine Design & Computer Aided Design-II	100	50	150
37	Project Management	100	00	100
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

**Eighth Term**

No.	Subject	Marks		
		Theory	Practical	Total
38	Mechanical Vibrations	100	50	150
39	Manufacturing Technology-II	100	50	150
40	Maintenance Engineering	100	00	100
41	Refrigeration & Air Conditioning	100	50	150
42	Project/Thesis	00	200	200
	<b>Total</b>	<b>400</b>	<b>350</b>	<b>750</b>

**3.4 Department of Metallurgy & Materials Engineering**

Our Mission is to maintain a world class teaching and research activity at department of Metallurgy and Materials Engineering, Mehran University of Engineering & Technology. Metallurgy & Materials Engineering is a field of engineering that circumscribes the spectrum of materials, types and how to use them in manufacturing. It is the technology of producing, processing and giving proper shape to metals and alloys and other Engineering Materials having desired properties through economically viable process. The field offers an enormous range of activities and field of influence, with a high degree of job satisfaction for both men and women.

The Department of Metallurgy and Materials Engineering offers a four-year degree course titled Bachelor of Engineering in Metallurgy & Materials. The subjects Mineral dressing, Metallurgical Thermodynamics and Kinetics, Iron and Steel Making Technology, physical Metallurgy, Science of Engineering Materials, Inspection and Testing of Materials, Heat treatment, Manufacturing Technology and Engineering Fracture Mechanics form the basis for the degree course. However, other related subjects



also include in the course to make it versatile and integratable with other fields of Engineering. The Department also offers Postgraduate Diploma (P.G.D) and Master of Engineering (M.E.) in Material Sciences and Technology which at present is a part time evening program.

A seminar hall-cum-library has also been established in the department to provide in house reference materials for the faculty members and students. A Computer laboratory is available for students that provide Internet, E-mail and various application software facilities. The students have also to complete a project and dissertation in the final year involving research/special studies to give them more comprehensive experience of practical work and report writing.

A student chapter “Mehranian Materials Advantage Chapter (MMAC)” has been established in the department to provide an effective and stimulating platform for the student to foster, develop and promote communication, education, networking, dissemination of knowledge, research and innovations in aspects of Metallurgy and Materials Engineering.

The Department has prepared PC-I approx. cost Rs. 40 million for strengthening the existing lab. Facilities and launching Ph.D research program in the field of Metallurgy and Materials Engineering.

#### **3.4.1 Teaching Staff of Metallurgy & Materials Engineering Department**

Following teaching staff is presently working in the department of Metallurgy & Materials Engineering.

1. Chairman of the Department: Prof. Dr. Muhammad Moazam Baloch  
Phone: 022-2771425
2. Professors: Dr. Muhammad Moazam Baloch  
Dr. Muhammad Hayat Jokhio  
Dr. Muhammad Ishaque Abro
3. Associate Professor: -
4. Assistant Professors: Mr. Sultan Ali Memon  
Mr. Sikandar Ali Memon  
Mr. Riaz Ahmed Memon
5. Lecturers: Syed Khalid Mehmood Shah  
Mr. Nisar Ahmed Memon  
Mr. Muhammad Waseem Akhtar  
Mr. Umair Aftab  
Mr. Shafique Ahmed

#### **3.4.2 Courses of Studies for B.E. Metallurgy & Materials Engineering**

No.	Name of Subject	Marks		
		Theory	Practical	Total

## FIRST YEAR

### First Term

1.	Applied Calculus	100	00	100
2.	Islamic Studies/Ethics	50	00	50
3.	Pakistan Studies	50	00	50
4.	Introduction to Engineering Materials	100	00	100
5.	Applied Chemistry	100	50	150
6.	Introduction to Computer Systems	100	50	150
7.	Workshop Practice	00	100	100
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

### Second Term

8.	Functional English	100	00	100
9.	Linear Algebra, Differential Equations and Solid Geometry	100	00	100
10.	Engineering Drawing & Graphics	100	50	150
11.	Applied Electricity & Electronics	100	50	150
12.	Applied Physics	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

## SECOND YEAR

### Third Term

13.	Fuel, Refractories & Furnaces	100	00	100
14.	Mineral Dressing	100	50	150
15.	Environmental Engineering	100	50	150
16.	Metallurgical Thermodynamics & Kinetics	100	50	150
17.	Mechanics of Materials	100	00	100
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

### Fourth Term

18.	Foundry Engineering	100	50	150
19.	Iron Making Technology	100	50	150
20.	Physical Metallurgy	100	50	150
21.	Non Ferrous Extractive Metallurgy	100	50	150
22.	Science of Engineering Materials	100	50	150
	<b>Total</b>	<b>500</b>	<b>250</b>	<b>750</b>

### **THIRD YEAR**

#### **Fifth Term**

23.	Numerical Analysis & Computer Programming	100	50	150
24.	Engineering Ceramics & Glasses	100	50	150
25.	Polymeric Materials	100	50	150
26.	Vacuum Metallurgy	100	00	100
27.	Corrosion & Protection	100	50	150
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

#### **Sixth Term**

28.	Statistical Methods & Estimations	100	00	100
29.	Inspection & Testing of Materials	100	50	150
30.	Welding & other Joining Processes	100	50	150
31.	Industrial Economics & Management	100	00	100
32.	Instrumentation & Control	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

### **FINAL YEAR**

#### **Seventh Term**

33.	Nuclear Metallurgy & Materials	100	00	100
34.	Steel Making Technology	100	50	150
35.	Heat Treatment & Phase Transformation	100	50	150
36.	Manufacturing Technology	100	50	150
37.	Powder Metallurgy	100	50	150
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

#### **Eighth Term**

38.	Foundry Engineering & Practice	100	50	150
39.	Computer Application in Materials Engineering.	100	50	150
40.	Advanced Materials	100	50	150
41.	Engineering Fracture Mechanics	100	50	150
42.	Project/Thesis	00	200	200
	<b>Total</b>	<b>400</b>	<b>400</b>	<b>800</b>

### **3.5 Department of Mining Engineering**

**Quote: “If it is not GROWN, it has to MINE”**

**Mining Engineering** is a highly technical field. Today the challenges of mining are greater than before. Now high-tech techniques are being designed to make tomorrow's mines more productive, safer, and economically successful. Mining engineers are seeking ways to extract essential raw materials without causing undue disturbance to the environment.

Mining Engineering is an umbrella field that involves many of the other engineering disciplines that are closely related to mining engineering are; civil engineering, environmental engineering, geotechnical engineering, hydraulic engineering and electrical engineering.

Mining provides the mineral resources for society, including coal, metallic & non-metallic ores, as well as such basic products such as; gravel, limestone, and stone that are essential to the nation's highways, bridges, power plants, and building foundations. Wherever productive mineral deposits are found in our country- the special skills of Mining and mineral processing engineers are required.

### **COURSE**

Four-year course leading to the degree of "Bachelor of Engineering in Mining" is offered. The curricula is updated time to time to meet the requirements of Mining Industry. The course work generally involves the following components: university-level math and science, basic engineering courses, mining engineering courses, management-related courses, geology courses, and humanities/social sciences courses. Many of the courses are taught with a combination of lectures and laboratory experience. The course work generally involves; Computer Application to Mining Industries, Mineralogy & Petrology, Rock Mechanics, Utilization of Industrial minerals, Planning & Design of Underground Mines, Drilling Technology, Mineral Processing, Mine Water & dewatering Design, Principles of Explosive Engineering, Coal Technology, Cement Technology, Mine Rescue & Safety, and Mine Management.

### **PRACTICAL FACILITIES**

Adequate number of Laboratories are established to support the lectures. These laboratories include machinery for rock mechanics and minerals processing, mine ventilation, coal preparation, and surveying. A computer laboratory is also available for the use of faculty and, as well as the students. Significant liaison with the Mining industry has also been established. The students are sent for field visits as well as for internship in order to expose them to the real situation.

### **SCOPE**

The graduates of the Mining engineering department are employed in the public sector including Directorate of Mineral Development, Government of Sindh, Directorate of Sindh, Coal Authority, Government of Sindh, Lakhra Coal Development company; Pakistan Atomic Energy Commission (PAEC); Pakistan Mineral Development Corporation (PMDC); Oil and Gas Development Corporation Ltd (OGDCL); Cement Industries; Quarries of Pakistan Steel mill, and various other private organizations like; coal mines, and other mining related projects.

### **RESEARCH**

The Department of Mining Engineering is actively involved in various research projects of national importance related to different areas of Mining Industry. Moreover, linkages has also been developed with the University of Nottingham, UK University of Leoben, Austria, and University of Leeds, U.K. to achieve the objectives such as: Faculty development to improve the quality of education and research, and to produce competent Mining graduates.

### 3.5.1 Teaching Staff of Mining Engineering Department

Following teaching staff is presently working in the department of Mining Engineering.

1. Chairman of the Department: Prof. Dr. Syed Mohammad Ali Shah  
Phone: 022-2771391 022-2772260-73 Ext. 4600  
Fax 022-2771327  
e-mail: drshahma@hotmail.com
2. Professors: Dr. Abdul Ghani Pathan  
Dr. Syed Mohammad Ali Shah
3. Associate Professor: Mr. Pervez Ahmed Pathan
4. Assistant Professors: Mr. Ahsan Ali Memon  
Mr. Muhammad Hashim Rind  
Mr. Muhammad Yakoob Behan  
Mr. Saeed Ahmed Memon  
Mr. Sikandar Ali Channa
5. Lecturers: Mr. Safiullah Memon  
Mr. Munawar Ali Pinjaro  
Mr. Fahad Irfan Siddiqui (on study leave)  
Mr. Shafi Muhammad Pathan

### 3.5.2 Courses of Studies for B.E. Mining Engineering

No.	Name of Subject	Marks		
		Theory	Practical	Total

#### FIRST YEAR First Term

1.	Applied Calculus	100	00	100
2.	Pakistan Studies	50	00	50
3.	Islamic Studies/Ethics	50	00	50
4.	Engineering Drawing	100	50	150
5.	Workshop Practice	00	100	100
6.	Mining Engineering Fundamentals	100	50	150
	<b>Total</b>	<b>400</b>	<b>200</b>	<b>600</b>

#### Second Term

7.	Functional English	100	00	100
8.	Linear Algebra & Analytical Geometry	100	00	100
9.	Applied Chemistry	100	50	150
10.	Electrical Technology	100	50	150
11.	Engineering Mechanics	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

## SECOND YEAR

### Third Term

12.	Differential Equations & Fourier Series	100	00	100
13.	Surveying	100	50	150
14.	General Geology	100	50	150
15.	Applied Thermodynamics	100	50	150
16.	Strength of Materials	100	50	150
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

### Fourth Term

17.	Mine Surveying	100	50	150
18.	Fluid Mechanics	100	50	150
19.	Mineralogy & Petrology	100	50	150
20.	Mineral Processing-I	100	50	150
21.	Coal Technology	100	50	150
	<b>Total</b>	<b>500</b>	<b>250</b>	<b>750</b>

## THIRD YEAR

### Fifth Term

22.	Numerical Analysis & Computer Programming	100	50	150
23.	Mineral Processing-II	100	50	150
24.	Structural Geology	100	50	150
25.	Rock Mechanics	100	50	150
26.	Utilization of Industrial Minerals	100	50	150
	<b>Total</b>	<b>500</b>	<b>250</b>	<b>750</b>

### Sixth Term

27.	Statistical Methods & Estimations	100	00	100
28.	Principles of Explosive Engineering	100	50	150
29.	Mining Laws	100	00	100
30.	Mine Ventilation	100	50	150
31.	Mine Management	100	00	100
	<b>Total</b>	<b>500</b>	<b>100</b>	<b>600</b>

## FINAL YEAR

### Seventh Term

32.	Strata Control	100	50	150
33.	Mineral Exploration Technique and Mine Economics	100	00	100
34.	Mine Water & Dewatering Design	100	00	100
35.	Planning & Design of Underground Mines	100	00	100
36.	Drilling Technology	100	50	150
	<b>Total</b>	<b>500</b>	<b>100</b>	<b>600</b>

## **Eighth Term**

37.	Computer Application to Mining Industry	100	50	150
38.	Mine Rescue & Safety	100	50	150
39.	Surface Mine Design & Practice	100	50	150
40.	Cement Technology	100	00	100
41.	Project/Thesis	00	200	200
	<b>Total</b>	<b>400</b>	<b>350</b>	<b>750</b>

### **3.6 Department of Textile Engineering**

The department of Textile Engineering was established in 1993 with the aim to provide education at par with international standards, providing qualified graduates, who will contribute towards the development and modernization of Textile Industry in Pakistan. As a matter of fact, the department was the second textile institute built in Pakistan at that time after NCTE Faisalabad.

From the start the department was offering Four Years full time Bachelor of Engineering program. The course covers a combination of Theory and Practical subjects, related with various segments of Textile Engineering supplemented with management and allied engineering courses.

The department has started the M.E. course in Textile Engineering since 2008. It is a full time evening program and 25 students are currently enrolled in the program. It is anticipated that the course would attract more professionals working in different textile industries from the country.

It is worth to mention that our two faculty members are pursuing their Ph.D study abroad in Textile Engineering.

Textile Engineering Department is also a source center for technical human resources and consultants. This department has also been an approved training center of Rieter Switzerland of Pakistan. Industry personnel of various industries throughout Pakistan joined authorized Rieter training courses on Rieter spinning machines installed in the laboratories of the department.. In order to produce quality product of Pakistan, the laboratories are used to provide testing and consultancy services to the local industry. Currently two Ph.D scholars are registered in this department.

#### **Future plans:**

- \* Upgradation of existing practical laboratories.
- \* Development of knitting Laboratory and Garment Laboratory
- \* Accreditation of the department with internationally renowned organizations such as:
  - Textile Institute Manchester UK
  - Society of Dyers & Colorists Bradford UK and
  - Society of Textiles USA

To switch the department to school of excellence; which have various departments such as Yarn Manufacturing, Fabric Manufacturing, Wet-processing, Knitting and Garment. It would offer specialized degree and increased the research activities.

### **Major Areas of Studies and their importance:**

#### **1. Fiber Manufacturing**

Pakistan is one of the largest cotton (Natural Fiber) growing country in the world and the synthetic fibers is a by-product of petroleum. It is very important of our country to produce engineers with adequate knowledge of manufacturing and processing of natural and synthetic fibers so that they can design processes and plan industries for quality production accordingly.

#### **2. Yarn Manufacturing**

As yarn is the raw material of fabric, therefore major factor for the quantity and quality of the fabric depends on the quality of yarns and its manufacturing processes. It indicates that we must have qualified personnel who can study the problems of yarn manufacturing and solve them through technical know how and available resources. For this we have modern machinery of Yarn Manufacturing available in our laboratory.

#### **3. Fabric Manufacturing**

The yarns produced from Yarn Manufacturing process, are converted into fabric and for fabric manufacturing we need highly qualified engineers who can produce world class fabric on cheapest rates as well as they can design fabric manufacturing machines by utilizing their theoretical, practical and engineering knowledge.

#### **4. Wet-processing**

It is known to every one that the world market can be captured and more profit can be earned by introducing the value added textiles into market. To make the grey cloth useable and valuable it needs to be processed through various chemical and mechanical processes. We have to produce engineers with references to Pre-treatment, Dyeing, Printing, and Finishing of fabric to produce value added product.

#### **5. Textile Testing and Quality Control**

Quality of textile products may be maintained through its evaluation. For this reason, it is necessary to have knowledge of international quality standards and testing instruments used for textile testing. Our graduate Engineers must have appropriate knowledge of operating these textile testing instruments and are capable enough to solved the problems of industries.

### **3.6.1 Teaching Staff of Textile Engineering Department**

Following teaching staff is presently working in the Department of Textile Engineering.

1. Chairman of the Department: Dr. Anwaruddin Tanwari  
Phone: 022-2771565



2. Professor: Dr. Anwaruddin Tanwari
3. Associate Professor: -
4. Assistant Professors: Mr. Raj Kumar Khiani  
Dr. Noorullah Soomro  
Mr. Farooq Ahmed Arain  
Mr. Raja Fahad Ashraf Qureshi  
Dr. Awais Khatri  
Dr. Uzma Syed  
Mr. Shamshad Ali Shaikh  
Dr. Mazhar Hussain Peerzada
6. Lecturers: Mr. Zeeshan Khatri (on study leave)  
Mr. Shahid Hussain Jalbani (on study leave)  
Ms. Sadaf Aftab Abbasi  
Ms. Sanam Irum Memon  
Mr. Abdul Wahab Jatoi  
Mr. Iftikhar Ali Sahito  
Ms. Alvira Ayoub Arbab  
Ms. Sidra Saleemi  
Ms. Rabia Almas Arain  
Mr. Samander Ali Malik  
Mr. Naveed Mengal  
Mr. Nadir Ali Rind  
Ms. Umaima Saleem

### 3.6.2 Courses of Studies for B.E. Textile Engineering

No.	Name of Subject	Marks		
		Theory	Practical	Total

#### FIRST YEAR

##### First Term

1.	Applied Chemistry	100	50	150
2.	Calculus	50	00	50
3.	Pakistan Studies	50	00	50
4.	Islamic Studies/Ethics	50	00	50
5.	Engineering Drawing & Computer Graphics	100	50	150
6.	Workshop Practice	00	100	100
	<b>Total</b>	<b>350</b>	<b>200</b>	<b>550</b>

##### Second Term

7.	Functional English	100	00	100
8.	Electrical Engineering	100	50	150
9.	Electronic Engineering	100	50	150
10.	Textile Raw Material	100	00	100
11.	Differential Equation & Laplace	50	00	50

	Transform			
12.	Applied Thermodynamics	100	50	150
	<b>Total</b>	<b>550</b>	<b>150</b>	<b>700</b>

## SECOND YEAR

### Third Term

13.	Yarn Manufacturing-I	100	50	150
14.	Fiber Science	100	50	150
15.	Textile Mechanics-I	100	50	150
16.	Industrial Engineering & Management	100	00	100
17.	Introduction to Computers & C++ programming	100	50	150
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

### Fourth Term

18.	Yarn Manufacturing-II	100	50	150
19.	Fabric Manufacturing-I	100	50	150
20.	Synthetic Fiber Manufacturing	100	00	100
21.	Textile Pre-treatment	100	50	150
22.	Textile Machine Design	100	50	150
23.	Numerical Methods	50	00	50
	<b>Total</b>	<b>550</b>	<b>200</b>	<b>750</b>

## THIRD YEAR

### Fifth Term

24.	Textile Marketing	50	00	50
25.	Yarn Manufacturing-III	100	50	150
26.	Fabric Manufacturing-II	100	50	150
27.	Dye Stuff Chemistry	100	50	150
28.	Air-conditioning in Textile Industry	50	50	100
29.	Statistical Methods	50	00	50
	<b>Total</b>	<b>450</b>	<b>200</b>	<b>650</b>

### Sixth Term

30.	Textile Mechanics-II	100	50	150
31.	Dyeing & Printing	100	50	150
32.	Fabric Design and Structure	100	50	150
33.	Automation & Control Engineering	100	50	150
34.	Communication Skills	50	00	50
35.	Production Management	50	00	50
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

## FINAL YEAR

### Seventh Term

36.	Textile Testing and Quality Control-I	100	50	150
37.	Yarn Manufacturing-IV	100	50	150
38.	Colour Physics	100	50	150
39.	Fabric Manufacturing-III	100	50	150
40.	Maintenance Engineering	50	50	100
	<b>Total</b>	<b>450</b>	<b>250</b>	<b>700</b>

### **Eighth Term**

41.	Textile Testing and Quality Control-II	100	50	150
42.	Environmental Engineering	100	00	100
43.	Textile Finishing	100	50	150
44.	Textile Project Planning	100	00	100
45.	Project/Thesis	00	200	200
	<b>Total</b>	<b>400</b>	<b>300</b>	<b>700</b>

### **3.7 Institute of Petroleum& Natural Gas Engineering**

#### **Background**

Considering the fact that Pakistan, especially the province of Sindh, is very rich in oil and gas reserves; a separate department of Fuel Engineering was established in 1983; later, on the recommendation of Accreditation Committee of the HEC the then UGC (University Grants Commission), the Department of Fuel Engineering was renamed as Department of Petroleum & Gas Engineering.

Petroleum Engineering has gained considerable importance due to the vital role in the economy of the country. In line with this progress, research and development activities have gathered momentum during last two decades. Therefore, the department was upgraded to the status of Institute of Petroleum & Natural Gas Engineering in 1996. The purpose was to promote advance learning, encourage postgraduate studies and research in petroleum engineering to meet the need for qualified manpower nationally and internationally.

#### **Courses**

The curriculum includes courses in reservoir analysis, drilling techniques, production techniques, processing, transmission, distribution, storage and economics of oil and natural gas. Additional subjects such as geology, computer applications and programming, mathematics are also included in the courses. Regular visits of oil and gas field for up-to-date practical knowledge is the key feature of the program. Well-equipped laboratories have been established to cover the practical aspect of the reservoir analysis, gas engineering, refinery process and drilling fluid properties. Students are facilitated with a computer laboratory with latest computers, where can work on their projects, assignments and have access to the Internet facilities.

#### **Internship**

The Institute also arranges summer vacation internship to third/final year students with the coordination of oil and gas exploration and production companies operating in Pakistan. This internship enhances the knowledge of students on day-to-day field operation and working environment of the petroleum industry. In the final year the students are assigned to work on a project related to the field operations. The project is usually designed and completed in collaboration with the petroleum Industry.

### **Linkage with National/Int'l Organizations**

A Student Chapter of Society of Petroleum Engineers (SPE) International “Mehran Student Chapter” was also established at this Institute in 1998. The purpose to establish the Chapter was to help the students in updating their relevant knowledge by organizing technical short courses, seminars and sessions, field trips. The chapter also helps the Institute to liaison with all the major national and multinational companies in the oil and gas sector in Pakistan.

The University has signed an agreement with Pakistan Petroleum Ltd to establish a PPL Chair in the Institute. The purpose of establishing such a Chair was to promote scientific research activities and higher learning in the field of Petroleum Engineering including laboratory research work, participation in technical conferences, seminars, workshops, short courses and to maintain the quality of undergraduate and postgraduate programs of the Institute in line of international standards.

#### **3.7.1 Teaching Staff of the Institute of Petroleum & Natural Gas Engineering**

Following teaching staff is presently working in the Institute of Petroleum & Natural Gas Engineering.

1. Director of the Institute: Dr. Hafeez-ur-Rahman Memon,  
Phone: 022-2771241, 2772250-73 (Ext. 4300)  
Fax No. 022-2772453  
Email: hafeez.memon@faculty.mueta.edu.pk
2. Professors: Dr. Hafeez-ur-Rahman Memon  
Dr. Abdul Haque Tunio
3. Associate Professor: Ms. Zulekha Soomro
4. Assistant Professors: Mr. Muhammad Hanif Sahto  
Mr. Shahzad Ali Baladi (on lien)  
Mr. Allah Dino Samoon  
Mr. Muhammad Khan Memon (on study leave)
5. Lecturers: Mr. Naeem Ahmed Bhatti  
Mr. Abdul Qadir Shaikh  
Mr. Aftab Ahmed Mahesar  
Mr. Naveed Ahmed Ghirano  
Mr. Khalil Rehman Memon (on study leave)  
Mr. Irfan Ali Memon (on study leave)  
Mr. Mukhtiar Ali Talpur  
Mr. Ubedullah Ansari

Mr. Habib U Zaman Memon

6. Visiting Faculty: Mr. Asad Ali Channa  
Ms. Sadaf Shah

### 3.7.2 Courses of Studies for B.E. Petroleum & Natural Gas Engineering

No.	Name of Subject	Marks		
		Theory	Practical	Total

#### FIRST YEAR

##### First Term

1.	Workshop Practice	00	100	100
2.	Pakistan Studies	50	00	50
3.	Islamic Studies/Ethics	50	00	50
4.	Fundamentals of Petroleum Engineering	100	50	150
5.	Applied Chemistry	100	00	100
6.	Applied Calculus	100	00	100
	<b>Total</b>	<b>400</b>	<b>150</b>	<b>550</b>

##### Second Term

7.	Functional English	100	00	100
8.	Applied Geology	100	50	150
9.	Applied Physics	100	50	150
10.	Linear Algebra & Analytical Geometry	100	00	100
11.	Engineering Drawing & Graphics	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

#### SECOND YEAR

##### Third Term

12.	Differential Equations & Fourier Series	100	00	100
13.	Petrophysics	100	00	100
14.	Fluid Mechanics	100	50	150
15.	Stratigraphy & Structural Geology	100	50	150
16.	Chemical Engineering Thermodynamics	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

##### Fourth Term

17.	Petroleum Geology & Exploration	100	50	150
18.	Properties of Reservoir Fluids	100	50	150
19.	Drilling Engineering-I	100	50	150

20.	Complex Variables & Laplace Transform	100	00	100
21.	Introduction to Computers & C++ programming	100	50	150
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

### THIRD YEAR

#### Fifth Term

22.	Drilling Engineering-II	100	50	150
23.	Applied Statistics	100	00	100
24.	Corrosion Engineering	100	00	100
25.	Reservoir Engineering-I	100	50	150
26.	Well Logging & Interpretation	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

#### Sixth Term

27.	Reservoir Engineering-II	100	50	150
28.	Petroleum Production Engineering-I	100	50	150
29.	Gas Reservoir Engineering	100	50	150
30.	Petroleum Refinery & Petrochemicals	100	50	150
31.	Numerical Analysis & Computer Application	100	00	100
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

### FINAL YEAR

#### Seventh Term

32.	Well Testing	100	50	150
33.	Natural Gas Engineering	100	50	150
34.	Instrumentation & Control	100	50	150
35.	Petroleum Production Engineering-II	100	50	150
36.	Project Planning & Management	100	00	100
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

#### Eighth Term

37.	Principles of Enhanced Oil Recovery	100	50	150
38.	Principles of Reservoir Simulation	100	50	150
39.	Environment & Safety Management	100	00	100
40.	Petroleum Economics	100	00	100
41.	Project/Thesis	00	200	200
	<b>Total</b>	<b>400</b>	<b>300</b>	<b>700</b>

## 4. FACULTY OF ELECTRICAL, ELECTRONIC & COMPUTER ENGINEERING

Technological innovation in the field of engineering is accelerating at an enormous pace. The modern industry is now the centre of a technologically sophisticated system; and this requires technologically articulate staff. Engineering professionals have become intimately involved in many aspects of semiconductor industry, instrumentation, telecommunication, computer systems, automation, robotics, control systems, power and energy management and the faculty of Electronics, Electrical & Computer Engineering (FEECE) is serving as the polestar for researchers.

Six major departments namely, Electronics, Electrical, Telecommunication, Computer Systems, Software and Bio-medical Engineering exist under the umbrella of this faculty offering quality education to more than 2000 undergraduate. While being one of the most productive faculties, we have expanded our offerings considerably for post-graduation, offering Masters in Communication System and Networks, Electronics System Engineering, Electrical Power Engineering, Software Engineering, Telemedicine & e-Health, and Information Technology. To run these postgraduate programs successfully, we established Institute of Information & Communication Technologies (IICT) under this faculty. This institute has become an ICT hub with 450 graduate (Masters and PhD) students not only from Pakistan but also from different countries around the world.

The establishment of more than 50 state of the art laboratories in this faculty, including two Top Quality Centralized Instrumentation Laboratories and EDA Tools Laboratory have helped both undergraduate and graduate students to carry out quality research and practical work. In addition to this, a number of research incubators have also been setup to further polish and accelerate the research activities, thereby guaranteeing outstanding research, FEECE students benefit from our broad-based education, internship opportunities, global experience and undergraduate research projects. Our Global student exchange programs under Erasmus Mundus and Fulbright offer international experience to both undergraduate and graduate students. Vibrant student activities provide opportunities for leadership and team-building, which result in outstanding performance of our students in the industry.

This faculty is ushering to become one of the best places of research in the country, thereby training and educating future generations of engineers; and that is promotes growth and development on the basis of merit and excellence, collaboration and cooperation with other great research institutions, industry and the private sector.

Relevant information about all the departments which comes under this faculty is provided below.

#### **4.1 Department of Electrical Engineering**

Electrical Engineering is a branch of engineering concerned with the study and application of electricity, electronics and electromagnetism, dealing with the large-scale electrical systems such as power generation transmission, controlled distribution and utilization.

The Department of electrical engineering is one of the oldest and prestigious departments of the university supported and equipped with highly qualified faculty and modern laboratories named as:

- \* Power Systems Lab
- \* Power Electronics Lab

- \* Electrical Machines Lab
- \* High Voltage Engineering Lab
- \* Clean Energy Lab
- \* Control and Automation Lab
- \* Electrical Measurements & Circuit Lab
- \* Equipment and Training Lab
- \* Applied Electricity Lab
- \* Communication Lab
- \* Computer Lab
- \* Hi-Tech Lab

These laboratories serve not only undergraduates and postgraduate students but they also provide services to the public and private sectors like training, equipment testing, calibration and consultancy services. Besides normal academic activities, the department faculty and students are involved in research and development activities in collaboration with industries.

The department has 25 full-time faculty members. Several faculty members have won prestigious awards for their teaching and research work.

Our undergraduate and postgraduate students are drawn from across the country and abroad. Degrees are conferred to the undergraduate students on successful completion of a four year degree program. Postgraduate students receive M.E. degree after successful completion of 18-month Postgraduate Diploma program and minimum of six months research work. Currently, 500 undergraduate, 150 postgraduate and 05 Ph.D students are enrolled in the department.

The undergraduate program emphasizes teaching electrical engineering fundamentals and applications as well as advanced engineering studies, enabling young graduates to work in industry or pursue higher education with great confidence. Our graduate engineers are given top priority in the public and private sectors.

#### **4.1.1 Teaching Staff of Electrical Engineering Department**

Following teaching staff is presently working in the department of Electrical Engineering.

- |    |                               |   |
|----|-------------------------------|---|
| 1. | Chairman of<br>the Department | Dr. Abdul Sattar Larik<br>Ph:022-2771351  |
| 2. | Professors:                   | Dr. Muhammad Aslam Uqaili<br>Dr. Abdul Sattar Larik<br>Dr. Ashfaque Ahmed Hashmani  |
| 3. | Associate<br>Professors:      | Mr. Mushtaque Ahmed Mirani<br>Mr. Badar-ul-Haque Baloch,<br>Dr. Mukhtiar Ahmed Mahar<br>Dr. Zubair Ahmed Memon<br>Dr. Asif Ali Shah |
| 4. | Assistant<br>Professors:      | Mr. Anwar Ahmed Memon<br>Dr. Ali Asghar Memon<br>Mr. Noor Nabi Shaikh   |



Mr. Anwar Ali Sahito

7. Lecturers:
- Mr. Aijaz Ahmed Rajper
  - Mr. Muhammad Rashid Memon
  - Mr. Abdul Jabbar Memon
  - Mr. Amir Mahmood Soomro (on study leave)
  - Mrs. Mokhi Maan Chang
  - Mr. Faheemullah Shaikh
  - Mr. Shah Murad Tunio
  - Mr. Mansoor Ahmed Soomro
  - Mr. Abdul Hakeem Memon
  - Mr. Abdul Latif Samoon
  - Mr. Pervez Hameed Shaikh (on study leave)
  - Mr. Mahesh Kumar Rathi

#### 4.1.2 Courses of Studies for B.E. Electrical Engineering

No.	Name of Subject	Marks		
		Theory	Practical	Total

#### FIRST YEAR

##### First Term

1.	Functional English	100	00	100
2.	Applied Calculus	100	00	100
3.	Computer Applications & E-Learning	100	50	150
4.	Workshop Practice	00	100	100
5.	Electrical Engineering-I	100	50	150
	<b>Total</b>	<b>400</b>	<b>200</b>	<b>600</b>

##### Second Term

6.	Pakistan Studies	50	00	50
7.	Islamic Studies/Ethics	50	00	50
8.	Linear Algebra and Analytical Geometry	100	00	100
9.	Applied Mechanics	100	50	150
10.	Basic Civil Engineering	100	50	150
11.	Electrical Engineering-II	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

#### SECOND YEAR

##### Third Term

12.	Applied Thermodynamics	100	50	150
13.	Differential Equations and Fourier series	100	00	100
14.	Electronic Devices & Circuits	100	50	150
15.	Computer Aided Drawing	100	50	150
16.	Linear Circuits Analysis	100	50	150

	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>
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#### Fourth Term

17.	Applied Electronics	100	50	150
18.	Theory of EMF	100	00	100
19.	D.C Machines	100	50	150
20.	Statistics & Probability	100	00	100
21.	Complex Variables and Transforms	100	00	100
	<b>Total</b>	<b>500</b>	<b>100</b>	<b>600</b>

### THIRD YEAR

#### Fifth Term

22.	A.C Machines	100	50	150
23.	Communication Systems	100	00	100
24.	Instrumentation & Measurements	100	50	150
25.	Electrical Power Transmission	100	50	150
26.	Network Analysis	100	00	100
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

#### Sixth Term

27.	Machine Design & Equipment Training	100	50	150
28.	Power Generation Systems	100	00	100
29.	Digital Electronics & Fuzzy logic	100	50	150
30.	Numerical Analysis & Computer Applications	100	50	150
31.	Feedback Control Systems	100	50	150
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

### FINAL YEAR

#### Seventh Term

32.	Power System Analysis	100	50	150
33.	Electrical Power Distribution & Utilization	100	50	150
34.	Microprocessor Systems	100	50	150
35.	Advance Machines & Drives	100	50	150
36.	Power Economics & Management	100	00	100
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

#### Eighth Term

37.	Power System Control	100	50	150
38.	Power Electronics	100	50	150
39.	Power System Protection	100	50	150
40.	High Voltage Engineering	100	50	150

41.	Thesis/Project	00	200	200
	<b>Total</b>	<b>400</b>	<b>400</b>	<b>800</b>

## **4.2 Institute of Information & Communication Technologies**

In order to contribute its share in all the fields of Information Technology, attract the manpower from the country in general and all-over Sindh in particular, train on the state-of-the-art-technology and provide opportunity to serve the country, the Institute of Information Technology has been established at the University. The Institute consists of following Degree Programs of Under-graduate and Post-graduate studies:

### **Undergraduate Programs (B.E.)**

1. Bio-Medical Engineering
2. Computer Systems Engineering
3. Electronic Engineering
4. Software Engineering
5. Telecommunication Engineering

### **Postgraduate Programs (M.E.)**

1. Communication Systems & Networks
2. Information Technology
3. Telecom & Control Engineering
4. Electrical Power Engineering

#### **4.2.1 Department of Biomedical Engineering**

Mehran University of Engineering and Technology has got the privilege to establish the Biomedical Engineering Department for the first time in the history of all Public sector universities of Pakistan. Technological innovation in the field of medicine and health care is accelerating at enormous pace. The modern hospital is now the centre of a technologically sophisticated healthcare system; and this requires technologically articulate staff. Engineering professionals have become intimately involved in many aspects of medicine, and the discipline of "Biomedical Engineering" has become firmly established as an integration of the two disciplines of Medical and Engineering Sciences.

Biomedical Engineering uses principles of engineering to understand, modify to control biomedical systems including therapeutic, surgical, imaging and other diagnostic equipment. It is a interdisciplinary field encompassing electronics, computer, materials and mechanical engineering. It also requires basic knowledge of physiology, anatomy and biological sciences..

In practice, Biomedical Engineering also involves everything from equipment for diagnosis and patient monitoring through implants such as pacemakers, artificial joints and limbs to the computer simulation of biological functions. All these modern aids to healthcare have to be conceived, designed, tested, manufactured, installed, operated, maintained and improved.

The world market for all biomedical devices, including diagnostic and therapeutic equipment rose to \$ 273.3 billion/year by 2011. It is destined to grow even further,

especially in areas that have aging populations. Biomedical Engineers will be of increasing importance to this growth.

The coursework of Biomedical Engineering comprises diversified subjects including Electronic Circuits & Devices, Applied Calculus, Human Anatomy, Introduction to Computers, Biomedical Electronics, Biochemistry, Applied Physics, Biophysics, Digital & Logic Design, Computer Programming, Circuit Analysis, Power Electronics, Physiology, Telemedicine Systems, Signals & Systems, Bio-Signal Processing, Microprocessor & Interfacing, Biomedical Instrumentation, Advanced Instrumentation, Economics & Healthcare Management, Biomaterials & Design, Medical Imaging, Biomedical Control Systems, Prosthetics & Artificial Organs, Neurosciences & Networks, Professional Practices, Modeling & Simulation and Social Sciences.

The courses taught are regularly updated to keep in line with this quickly evolving field. The students also undertake a project during their final year, which helps them to enhance their capabilities as young design engineers. The department is also equipped with state-of-the-art laboratories listed below:

- Biomedical Instrumentation Laboratory
- Biochemistry Laboratory
- Anatomy & Physiology Laboratory
- Biomedical Computing Laboratory
- Biomechanics Laboratory
- Biomedical Electronics Laboratory
- Telemedicine & Research Laboratory
- Digital Electronics & Microprocessor Laboratory
- Biomedical Imaging Systems Laboratory
- Robotics Laboratory

These laboratories are well equipped with state of the art equipment ranging from basic electronic devices, simulators and trainers to more Advanced Biomedical Trainers, such as Mobile X-Ray, Defibrillator Machine, Ventilator, Microscope, Electrotherapy, Incubator, Flame Photometer, Water Distiller, Water Bath, Disaster Management Systems, Biochemistry Analyzer, Anesthesia Machine, and Hematology Analyzer, NI Telemedicine Design and Test Platform, NI Vision Embedded System, Ultrasound System for Teaching, Mammographic Calibration Toolkit, Mini Robot, Reynolds Demonstration module, Bernoulli's Theorem Demonstration module, Energy losses in Bends module, AP11, AP12 and AP15 Biomechanics Kits a complete Lab-tested system for teaching and learning the musculoskeletal system (American Hi-Tech instruments), EDIBON International S.A, Basic Hydraulic feed system, Digital Electronics Module MCM8/EV, Interactive multimedia System with control unit for PC Mod SIS-U/EV and Digital Signal Processing Development System, Excellent coursework and practical exposure win sufficient job opportunities to our graduates in both public and private sector organizations national & Multinational companies,. Also, there is huge job market of biomedical Engineers in Middle East, Europe, USA and Canada. Recently, Biomedical Engineering Department under the Institute of Information & Communication

Technologies has launched Master of Engineering in Telemedicine and e-Health Systems.

**Objectives:**

- To produce quality graduates in Biomedical Engineers.
- To produce high quality biomedical professionals and skilled manpower for R&D organizations and research institution in various specialized and emerging areas.
- To offer consultancy services in relatively sophisticated new technologies of Biomedical Engineering.
- To develop strategy for increasing Tele-treatment in the country.
- To offer various programs of higher studies for up-gradation of faculty members.
- To offer Master of Engineering in Telemedicine & e-Health.
- To offer research facilities in the field of Bioinformatics & Telemedicine.
- Collaboration between Mehran University of Engineering and Technology and Liaquat Medical University of Medical 7 Health Sciences has been established to achieve this goal.

**Career Prospects:**

As a Graduate in Biomedical Engineering, you will find an increasing range of job opportunities in the hospital service. You will also be able to secure a progressive career in a variety of sectors including:

- ◆ Modern Hospitals
- ◆ Medical support manufacture
- ◆ Medical systems development
- ◆ Research within academia/hospitals/product suppliers
- ◆ Government health service
- ◆ Clinical engineering
- ◆ Rehabilitation engineering
- ◆ Non-medical industrial specialists in device design & manufacture
- ◆ Development of new diagnostic instrumentation
- ◆ Analysis of medical device hazards & safety
- ◆ Design of telemetry systems for patient monitoring
- ◆ Healthcare Information System

**4.2.1.1 Teaching Staff of Biomedical Engineering Department**

- |    |                             |  |
|----|-----------------------------|--|
| 1. | Chairman of the Department: | Dr. Ahsan Ahmed Ursani<br>Phone: 022-2772279 |
| 2. | Professor:                  | Dr. Ahsan Ahmed Ursani                       |
| 3. | Associate Professor:        | -  |

4. Assistant Professors: Mr. Narinder P. Chowdhry  
Mr. Mohsin A. Shaikh (on study leave)
5. Lecturers: Dr. Muhammad Arif  
Dr. Najma Baloch  
Mr. Syed Amjad Ali Shah (on study leave)  
Mr. Noman Khan (on study leave)  
Mr. Syed Faisal Ali  
Ms. Rabia Chandio  
Mr. Salman Afridi  
Mr. Muhammad Aamir Panhwar

The Fees Structure of the Scheme is as under:

a.	Tuition fee (Per Year)	Rs. 19000/-
b.	Enrolment fee (once)	Rs. 500/-
c.	Marks Certificate verification fee	Rs. 500/-
d.	Transport charges (per year)	Rs. 3000/-
	<b>Total:</b>	<b>Rs. 23000/-</b>

#### 4.2.1.2. Courses of Studies for B.E. Biomedical Engineering

No.	Name of Subject	Marks		
		Theory	Practical	Total
<b>FIRST YEAR</b>				
<b>First Term</b>				
01.	Functional English	100	00	100
02.	Basic Electrical Engineering	100	50	150
03.	Basic Biology	100	50	150
04.	Introduction to Computers	100	50	150
05.	Applied Physics	100	50	150
<b>Total</b>		<b>500</b>	<b>200</b>	<b>700</b>
<b>Second Term</b>				
06.	Applied Calculus	100	00	100
07.	Physiology-I	100	50	150
08.	Computer Programming	100	50	150
09.	Human Anatomy	100	50	150
10.	Biophysics	100	50	150
<b>Total</b>		<b>500</b>	<b>200</b>	<b>700</b>
<b>SECOND YEAR</b>				
<b>Third Term</b>				
11.	Differential Equations & Fourier Series	100	00	100
12.	Biochemistry	100	50	150
13.	Physiology-II	100	50	150
14.	Biomedical Electronics	100	50	150
15.	Circuit Analysis	100	50	150
<b>Total</b>		<b>500</b>	<b>200</b>	<b>700</b>
<b>Fourth Term</b>				
16.	Electronic Circuit Design	100	50	150
17.	Linear Algebra & Numerical Methods	100	00	100
18.	Pakistan Studies	50	00	50

19.	Biomechanics	100	50	150
20.	Digital Logic Design	100	50	150
<b>Total</b>		<b>450</b>	<b>150</b>	<b>600</b>
<b>THIRD YEAR</b>				
<b>Fifth Term</b>				
21.	Signals & Systems	100	50	150
22.	Power Electronics	100	50	150
23.	Probability & Statistics	100	00	100
24.	Microprocessor & Interfacing	100	50	150
25.	Biomedical Instrumentation-I	100	50	150
26.	Islamic Studies/Ethics	50	00	50
<b>Total</b>		<b>550</b>	<b>200</b>	<b>750</b>
<b>Sixth Term</b>				
27.	Social Sciences-I	50	00	50
28.	Bio-Signal Processing	100	50	150
29.	Technical Report Writing & Presentation Skills	50	00	50
30.	Biomedical Instrumentation-II	100	50	150
31.	Biomedical Control Systems	100	50	150
32.	Modeling & Simulation	50	100	150
<b>Total</b>		<b>450</b>	<b>250</b>	<b>700</b>
<b>FINAL YEAR</b>				
<b>Seventh Term</b>				
33.	Economics & Healthcare Management	100	00	100
34.	Social Sciences-II	50	00	50
35.	Biomaterials & Design	100	50	150
36.	Telemedicine Systems	100	50	150
37.	Medical Imaging	100	50	150
<b>Total</b>		<b>450</b>	<b>150</b>	<b>600</b>
<b>Eight Term</b>				
38.	Neurosciences & Networks	100	50	150
39.	Advanced Biomedical Instrumentation	100	00	100
40.	Prosthetics & Artificial Organs	100	00	100
41.	Professional Practices	100	00	100
42.	Project/Thesis	00	200	200
<b>Total</b>		<b>400</b>	<b>250</b>	<b>650</b>

#### 4.2.2 Department of Computer Systems Engineering

**Computer Systems Engineering** is a discipline that integrates fields of Electrical Engineering and Computer Science required to develop Computer Systems. Computer Engineers usually have training in Electronic Engineering, software design, and hardware-software integration instead of only Software Engineering or Electronic Engineering. Computer Engineers are involved in many hardware and software aspects of computing, from the circuit design of individual microprocessors, personal computers, and supercomputers, to latest development of communication system and networks. Therefore, this field of engineering not only focuses on how computer systems work, but also how they integrate into the larger picture.

Usual tasks involving Computer Engineers include writing software and firmware for embedded microcontrollers, designing analogue sensors, designing mixed signal circuit boards, and designing operating systems. Computer Engineers are also suited for robotics research, which relies heavily on using digital systems to control and monitor electrical systems like motors, communications and wireless sensors. Due to increasing job requirements for engineers, who can concurrently design hardware, software, firmware, and manage all forms of computer, information and management systems used in industry. The department offers a carefully designed multidisciplinary courses and degree programs.

### **Courses of Studies for B.E. (Computer Systems Engineering)**

As with most of engineering disciplines, having a sound knowledge of mathematics and sciences is necessary for computer engineering. In the CSE (Computer Systems Engineering) department, students are trained to perform in-depth study in their junior and senior years, because the full breadth of knowledge used in the design and application of computers is required to compete in the international market.

Our course covers topics on the engineering of computer software and hardware systems; techniques for controlling complexity; strong modularity using client-server design, virtual memory, and threads; networks; atomicity and coordination of parallel activities; recovery and reliability; privacy, security, and encryption; and socio-economic impact of computer systems. It also looks at case studies of working web-based information architectures, distributed or parallel programming, and data warehousing whereas, readings from the accessible and the latest published literature helps students doing comparisons and contrasts. Also, one design project or thesis is a partial requirement of the Degree of Bachelor of Engineering in Computer Systems.

### **Career Opportunities**

The computerization of most facets of modern business and industry, together with the great demand for technical manpower creates a multitude of possibilities. As a career option that can allow an individual to be involved in the creation and implementation of a Computer System, Computer Systems Engineers are professionals who are actively engaged in the process of matching current technology with the needs of a company. As part of this task, the Computer Systems Engineer engages in the evaluation and installation of software, hardware, and other types of support equipment into a workable network that supports a variety of functions within a corporation. The Computer Systems Engineer may function as an employee of the company, a representative of a computer components and hardware, or as an independent consultant.

The Computer Systems Engineer finds employment in a wide variety of computerized environments such as hardware, software, networking research and development, process or information control systems or a combination of the above mentioned. The engineer might specialize further in any one of these chosen fields. Responsibilities may include maintenance or optimization of such environments. Additional functions could include the design, development, and implementation of additional or new systems, liaison with other departments such as management, production and instrumentation as well as with clients is an important aspect of his job. The dedicated Compute Systems Engineer may seek a senior post such as filling the post of System Administrator, Lead System or Project manager.



#### 4.2.2.1 Teaching Staff of Computer Systems Engineering Department

Following teaching staff is presently working in the department of Computer Systems Engineering.

1. Chairman of the Department: Dr. Mukhtiar Ali Unar  
Ph: (+92-22-2771206, 2772250-73 Ext. (4201)
2. Professor: Dr. Mukhtiar Ali Unar
3. Associate Professors: Mr. Manzoor Hussain Unar (on study leave)  
Mr. Muhammad Zahid Shaikh  
Dr. Tariq Jamil Saifullah Khanzada  
Dr. Sheeraz Ahmed Memon
4. Assistant Professors: Mr. Liaquat Ali Thebo  
Mr. Naveed Ahmed Jaffari  
Mr. Arbab Ali Samejo  
Ms. Zartasha Baloch  
Mr. Shah Nawaz Talpur (on study leave)  
Mr. Rizwan Badar  
Dr. Adnan Ashraf Arain  
Dr. Javed Ali Baloch  
Dr. Sana Hoor Arisar  
Mr. Muhammad Moazzam Jawaid
5. Lecturers: Ms. Saadia Iftikhar Soomro (on study leave)  
Mr. Muhammad Shaban Jokhio (on study leave)  
Mr. Hemat Kumar (on study leave)  
Mr. Salman Ahmed Shaikh (on study leave)  
Mr. Noor-u-Zaman (on study leave)  
Ms. Bushra Naz  
Ms. Hamna Rajput  
Ms. Sammer Zai  
Ms. Sanam Narejo  
Mr. Muhammad Ahsan Ansari  
Mr. Irfan Ali Bhacho  
Mr. Ali Asghar Manjotho  
Mr. Salahuddin Jokhio
6. Software Developers Mr. Aijaz Ali Brohi (Project Lead)  
Ms. Saniya Rajput

#### 4.2.2.2 Courses of Studies for B.E. (Computer Systems Engineering)

No.	Name of Subject	Marks		
		Theory	Practical	Total

**FIRST YEAR**  
**First Term**

1.	Computer Programming	100	50	150
2.	Basic Electrical Engineering	100	50	150
3.	Electronic Engineering	100	50	150
4.	Applied Calculus	100	00	100
5.	Functional English	100	00	100
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

### Second Term

6.	Computer Aided Engineering Drawing	50	100	150
7.	Electrical Circuits	100	50	150
8.	Data Structures and Algorithm Analysis	100	50	150
9.	Linear Algebra & Analytical Geometry	100	00	100
10.	Pakistan Studies	50	00	50
11.	Islamic Studies/Ethics	50	00	50
	<b>Total</b>	<b>450</b>	<b>200</b>	<b>650</b>

### SECOND YEAR

#### Third Term

12.	Object Oriented Paradigm	100	50	150
13.	Electronic Circuits	100	50	150
14.	Database Concepts	100	50	150
15.	Digital Logic and Design	100	50	150
16.	Differential Equations and Fourier Series	100	00	100
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

#### Fourth Term

17.	Applied Numerical Computation	100	50	150
18.	Engineering Economics and Management	100	00	100
19.	Computer Architecture and Design Concepts	100	00	100
20.	Visual Programming	100	50	150
21.	Laplace Transform and Discrete Mathematics	100	00	100
	<b>Total</b>	<b>500</b>	<b>100</b>	<b>600</b>

### THIRD YEAR

#### Fifth Term

22.	Operating Systems Design Concepts	100	50	150
23.	Microprocessors and Microcontrollers	100	50	150

24.	Management Information Systems	100	50	150
25.	Analogue and Digital Signal Processing	100	50	150
26.	Statistical Methods and Estimation	100	00	100
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

### Sixth Term

27.	Web Engineering	100	50	150
28.	Communication Systems	100	50	150
29.	Database Management Systems	100	50	150
30.	Automatic Control Systems	100	50	150
31.	Project Management	50	00	50
	<b>Total</b>	<b>450</b>	<b>200</b>	<b>650</b>

## FINAL YEAR

### Seventh Term

32.	Data Warehousing	100	50	150
33.	Software Engineering	100	50	150
34.	Compiler Construction	100	50	150
35.	Computer Communication and Networking	100	50	150
36.	Digital Image Processing	100	50	10
	<b>Total</b>	<b>500</b>	<b>250</b>	<b>750</b>

### Eighth Term

37.	Mobile and Wireless Communication	100	50	150
38.	Artificial Intelligence	100	50	150
39.	Microprocessor Interfacing and Applications	100	50	150
40.	Multimedia Systems	100	50	150
41.	Thesis/Project	00	200	200
	<b>Total</b>	<b>400</b>	<b>400</b>	<b>800</b>

### 4.2.3 Department of Electronic Engineering

Electronic Engineering is an increasingly important engineering discipline that significantly affects the other disciplines of engineering. It is in great demand in both developed and developing nations. Continual advances in electronic engineering in the areas of materials, processes, devices, and circuits have been leading to rapid advances, in the existing applications of engineering as well as in the emergence of new applications. To harness the full potential of electronic engineering developments and further advance the state of electronic technology, it is important to have strong programmes to educate and train individuals in this key discipline of engineering.

Electronic Engineering artifacts play major role in the evolution of mankind and culture. Today, the Electronic Engineering profession and the education of engineers are challenged by the rapidly changing nature of those engineering systems which determine

what is meant by 'modern technology'. The advent of Microprocessor Technology has probably made Electronic Engineering the exemplary technology of this century, along with emergence of new species, with higher levels of integration. The existing and potential uses and applications of Electronics are multitudinous. Indeed it is difficult to point to any industrial or commercial area which may not eventually be affected by this technology.

The Department of Electronic Engineering offers degrees at undergraduate and postgraduate level equally. It offers:

- B.E. (Electronic Engineering)
- M.E. (Electronic System Engineering) under the umbrella of Institute of Information & Communication Technologies.
- M.E. (Communication Systems & Networks) under the umbrella of Institute of Information & Communication Technologies.

It fulfills the more acute need of the development of the country by producing more qualified Engineers at undergraduate & postgraduate levels. The programs offered provide technical manpower for the development and production of the Electronic Engineering in the country to provide qualified human resources as engineers and technology experts to develop indigenous capability of planning, designing and executing various projects in Electronic Engineering.

The field of Electronic Engineering encompasses the knowledge of electronic circuits & devices and their applications. The students learn variety of subjects of diverse fields including, Microprocessors & Interfacing, Automation and Robotics, Analog & Digital Communication, Wired & Wireless Communications, Signal Processing, Industrial Electronics, Integrated Electronics, Artificial Neural Networks, Instrumentation & Control, Embedded System, Telecommunication System5 & Applications, Sequential Circuit Design, Laser & Fiber Optics, Microwave Engineering, Electromagnetic Waves & Radiating System, Computer Communication & Networking, etc.

The courses taught are regularly updated to keep abreast of new knowledge and development. It is also mandatory to undertake a project during their final year, which helps them to develop their practical skills as young design engineers. The department is also equipped with state-of-the-art laboratories such as:

- Basic Electronics Laboratory
- Advanced Electronics Laboratory
- Control Engineering Laboratory
- Interactive Learning Laboratory-I
- Interactive Learning Laboratory-II
- Digital & Microprocessor Laboratory
- Advanced Computer Applications Laboratory
- Telecommunication & Telematics Laboratory

- Interactive Electronic Design Automation Laboratory
- Top Quality Centralized Instrumentation Laboratory-I
- Top Quality Centralized Instrumentation Laboratory-II
- Project Laboratory/PC Repair Shop
- EDA Tools Laboratory

These laboratories are well equipped with latest equipment ranging from basic electronic devices, simulators and trainers to more advanced telecommunications trainers, such as Microwave & Antenna trainers. Excellent course work and due practical experience, provide ample job opportunities to our graduates in both public and private sector organizations, national & multinational companies. There is a huge job market of Electronic Engineers in Middle East, Europe, USA and Canada.

On behalf of our quality work and intention towards developing industrial interaction a “Top Quality Centralized Instrumentation Center (TQCIC)” has been established in our department. The aims & objectives of TQCIC are as follows:

- To develop interaction between industries and the university.
- To design & develop instruments with cost effectiveness.
- To provide the cost effective Hi-Tech solutions & modernize the existing Instrumentation in our industry & educational institutions.
- To provide consultancy in the areas of Industrial Automation & Control, Communication & Electronics.
- To provide the trainings in the areas of Instrumentation, PLCs, PID Controllers, PCB Designing & Fabrication & Advanced Simulation Softwares.
- To provide the services & solutions in Industrial Electronics equipments.

This department has recently established Mentor Graphics Electronic Design Automation (EDA) Laboratory and it has become the only EDA Mentor Graphics Authorized Training Partner (ATP) in Sindh Province.

- This department’s two senior faculty members got training in EDA Tools Specialization from Mentor Graphics Singapore.
- This department has good number of faculty professionals to handle these tools.
- The Electronic Department has recently introduced the new course like “FPGA Based System Design”, “Embedded System Design and VLSI Design” courses at Bachelor as well as Master level.
- This department has arranged two days workshop on EDA Tools in collaboration with authorized dealers (RASTEK Technologies). Thus becoming leading institute in the province to conduct such workshop first time.

- Department frequently arrange the industrial oriented seminars/training based on market requirements.
- Department believes in Problem & Project Based Learning (PBL). In order to encourage PBL, many project competitions and exhibitions are organized on regular basis.

The department has played major role in sending undergraduate and postgraduate students abroad (Europe and USA) on scholarships and short visits on Erasmus Mundus Program and US Fulbright Program.

Frequent visits to industries are also organized by the department to acquaint students with practical environment. Specifically internship program is launched in collaboration with local industry during summer break for third year and final year students. In addition to that, students are also encouraged to participate in Seminars, Conferences and Software Competitions, such as IEEEEP student seminar, A.Q. Khan Software at national level software competition held annually on and around campus. The department has centrally air-conditioned seminar library named after the late Professor M.D. Makhdoom.

#### **4.2.3.1 Teaching Staff of Electronic Engineering Department**

Following teaching staff is presently working in the Department of Electronic Engineering.

- |    |                             |   |
|----|-----------------------------|---|
| 1. | Chairman of the Department: | Dr. Bhawani Shankar Chowdhry<br>Phone: 022-2771334  |
| 2. | Professor:                  | Dr. Bhawani Shankar Chowdhry,   |
| 3. | Associate Professor:        | Dr. Wajiha Shah   |
| 4. | Assistant Professors:       | Dr. Khalil-ur-Rehman Dayo<br>Mr. Abdul Sattar Ansari<br>Ms. Farzana Rauf Abro (on study leave)<br>Mr. Tufail Ahmed Waseer<br>Ms. Farida Memon<br>Mr. Mehboob Hussain Khuwaja (on study leave)<br>Ms. Attiya Baqai<br>Mr. Irfan Ahmed Halepoto (on study leave)<br>Mr. Kehkashan Asma Memon<br>Mr. Kamran Kazi<br>Ms. Saba Baloch<br>Ms. Shakila Memon |
| 5. | Lecturers:                  | Ms. Yasmeen Naz Panhwar<br>Mr. Tayab Din Memon (on study leave)<br>Mr. Wanod Kumar (on study leave)<br>Mr. Qurban Ali Memon<br>Ms. Arbab Nighat (on study leave)<br>Mr. Imtiaz Hussain Kalwar (on study leave)  |

Mr. Khuhed Memon  
 Mr. Muhammad Zaigham Abass Shah  
 Ms. Maria Jan Shaikh  
 Mr. Aamir Ali Patoli  
 Ms. Naila Memon

#### 4.2.3.2 Course of Studies for B.E. Electronic Engineering

No.	Name of Subject	Marks		
		Theory	Practical	Total
<b>FIRST YEAR</b>				
<b>First Term</b>				
01.	Functional English	100	00	100
02.	Applied Calculus	100	00	100
03.	Computer Programming	100	50	150
04.	Basic Electrical Engineering	100	50	150
05.	Professional Ethics	50	00	50
06.	Electronics Workshop	00	50	50
<b>Total</b>		<b>450</b>	<b>150</b>	<b>600</b>
<b>Second Term</b>				
07.	Linear Algebra & Analytical Geometry	100	00	100
08.	Computer Aided Engineering Design	50	50	100
09.	Basic Electronics	100	50	150
10.	Electrical Circuits	100	50	150
11.	Pakistan Studies	50	00	50
12.	Islamic Studies/Ethics	50	00	50
<b>Total</b>		<b>450</b>	<b>150</b>	<b>600</b>
<b>SECOND YEAR</b>				
<b>Third Term</b>				
13.	Differential Equations & Fourier Series	100	00	100
14.	Amplifiers & Oscillators	100	50	150
15.	Engineering Management	100	00	100
16.	Digital Electronics	100	50	150
17.	Measurements & Instrumentation	50	100	150
<b>Total</b>		<b>450</b>	<b>200</b>	<b>650</b>
<b>Fourth Term</b>				
18.	Complex Variables & Transforms	100	00	100
19.	Electrical Machines	100	50	150
20.	Sequential Circuit Design	100	50	150
21.	Electromagnetic Fields & Radiating System	100	50	150
22.	Integrated Electronics	100	50	150
<b>Total</b>		<b>500</b>	<b>200</b>	<b>700</b>
<b>THIRD YEAR</b>				
<b>Fifth Term</b>				
22.	Signals & Systems	100	50	150
23.	Microprocessor & Interfacing Techniques	100	50	150
24.	Numerical Methods	100	50	150
25.	Feedback Control System	100	50	150

26.	Power Electronics	100	50	150
<b>Total</b>		<b>500</b>	<b>250</b>	<b>750</b>
<b>Sixth Term</b>				
27.	Analog & Digital Communication	100	50	150
28.	Modern Control Systems	100	50	150
29.	Digital Instrumentation Systems	100	50	150
30.	Probability & Random Signals	100	00	100
31.	FPGA-Based System Design	100	50	150
<b>Total</b>		<b>500</b>	<b>200</b>	<b>700</b>
<b>FINAL YEAR</b>				
<b>Seventh Term</b>				
32.	Computer Communication & Networking	100	50	150
33.	Digital Signal Processing	100	50	150
34.	Embedded Systems Design	100	50	150
35.	Telecommunication Systems & Applications	100	50	150
36.	Technical Report Writing & Presentation Skills	50	00	50
<b>Total</b>		<b>450</b>	<b>200</b>	<b>650</b>
<b>Eighth Term</b>				
37.	Microwave Engineering	100	50	150
38.	Automation & Robotics	100	50	150
39.	Neural Networks & Fuzzy Logic	100	50	150
40.	Laser & Fiber Optics	100	50	150
41.	Project/Thesis	00	200	200
<b>Total</b>		<b>400</b>	<b>400</b>	<b>800</b>
<b>Grand Total</b>				<b>5450</b>

#### 4.2.4 Department of Software Engineering

The Department offers undergraduate/postgraduate program leading to bachelor's and Master's degrees.

##### Software Engineering

This program provides students with an in depth understanding of software engineering with IT dependent enterprises, student develop capabilities in analysis, design and implementation of Software Engineering principles this discipline addresses the key aspects of modern software engineering through integrated courses.

The Course layout is revised to combat the needs of emerging markets of professional software engineers at national and international levels. The courses are designed according to the current and future needs of software industry. Department is also supported by an updated section in Central Library where latest edition of books, magazine and research journals are available.

To meet the latest trends in Software and hardware technology department has the following state-of-the-art laboratories, where students are trained to meet the future needs of the technology.



1. Computational Linguistic and Interactive e-Learning Laboratory
2. Visual Informatics and Image processing Laboratory
3. Data Warehousing and Management Laboratory
4. 3-D Modeling and Visualization Laboratory
5. Software Quality Assurance and Testing Laboratory
6. Software Research and Development Laboratory
7. Parallel Programming and Cluster Computing Laboratory
8. Grid Research and Storage Management Laboratory

Laboratories maintain high standards through latest hardware and software support. Many renowned companies related to the I.T field offer many internship to the students of this department many of our students are remained engaged in the internships to shine their skills and understand the market standards.

#### **4.2.4.1 Teaching Staff of Software Engineering Department**

Following teaching staff is presently working in the department of Software Engineering.

1. Chairman of the Department: Prof. Tahseen Hafiz  
(0300 9371015)
2. Professor: Dr. Muhammad Akram Shaikh
3. Associate Professor: Prof. Tahseen Hafiz
4. Assistant Professors: Mr. Nasarullah Memon (on lien)  
Mr. Qasim Ali Arain  
Dr. Imran Ali Jokhio  
Dr. Sania Bhatti  
Ms. Isma Farah Siddiqui  
Mr. Din Muhammad Sangrasi  
Mr. Salahuddin Sadar
5. Lecturers: Ms. Saira Saleem  
Mr. Shahzad Nizamani (on study leave)  
Mr. Naeem Ahmed (on study leave)  
Mr. Asif Sangrasi (on study leave)  
Ms. Anza Qureshi (on study leave)  
Mr. Mohsin Ali (on study leave)  
Ms. Amirita  
Ms. Areej Fatemah  
Ms. Samita Bai (on study leave)  
Mr. Zubair Ahmed Sangi  
Mr. Zahid Hussain Khaskheli  
Mr. Syed Muhammad Shehram Shah  
Ms. Anoud Abdullah Shaikh  
Ms. Moomal Memon  
Ms. Hira Nouman

#### **4.2.4.2 Courses of Studies for B.E. Software Engineering**

No.	Name of Subject	Marks		
		Theory	Practical	Total

## FIRST YEAR

### First Term

1.	Applied Calculus	100	00	100
2.	Basic Electrical Engineering	100	50	150
3.	Computer Programming	100	50	150
4.	Functional English	100	00	100
5.	Electronic Engineering	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

### Second Term

6.	Database Fundamentals	100	50	150
7.	Data Structures and Algorithm	100	50	150
8.	Internet Programming & Management	100	50	150
9.	Linear Algebra & analytical Geometry	100	00	100
10.	Pakistan Studies	50	00	50
11.	Islamic Studies/Ethics	50	00	50
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

## SECOND YEAR

### Third Term

12.	Software Marketing and Management	100	00	100
13.	Object Oriented Analysis & Design	100	50	150
14.	Digital Computer & Logic Design	100	50	150
15.	Information Systems	100	50	150
16.	Differential Equations and Fourier Series	100	00	100
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

### Fourth Term

17.	Object Oriented Programming	100	50	150
18.	Operating Systems Concepts	100	50	150
19.	Operation Research	100	00	100
20.	Microprocessor Technologies	100	50	150
21.	Laplace Transforms & Discrete Mathematics	100	00	100
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

## THIRD YEAR

### Fifth Term

22.	Computer Architecture	100	00	100
23.	Digital Communication	100	50	150
24.	Database Management & Administration	100	50	150
25.	Software Requirement Engineering	100	50	150
26.	Statistical Methods and Estimations	100	00	100
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

### Sixth Term

27.	Computer Networks & Management	100	50	150
28.	Visual Programming Concepts	100	50	150
29.	Software Project Management	100	50	150
30.	Theory of Automata & Formal Methods	100	00	100
31.	Software Simulation & Modeling	100	50	150
32.	Software Auditing	50	00	50
	<b>Total</b>	<b>550</b>	<b>200</b>	<b>750</b>

### FINAL YEAR

#### Seventh Term

33.	Artificial Intelligence Concepts & Techniques	100	50	150
34.	Software Design and Architecture	100	50	150
35.	Human Computer Interaction	100	00	100
36.	Data Warehousing & Mining	100	50	150
37.	Interactive Multimedia Systems & Graphics	100	50	150
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

#### Eighth Term

38.	Distributed Computing	100	50	150
39.	Web Technologies	100	50	150
40.	Computer Vision	100	50	150
41.	Software Testing & Quality Assurance	100	50	150
42.	Thesis/Project	00	200	200
	<b>Total</b>	<b>400</b>	<b>400</b>	<b>800</b>

#### 4.2.5 Department of Telecommunication Engineering

Mehran University of Engineering and Technology has got the privilege to establish the Telecommunication Engineering Department for the first time in the history of all Public and Private sector Universities of Pakistan. Keeping in view the tremendous growth of telecom sector, there is great scope and demand for telecom engineers, experts and

solution providers. Therefore, in year 2000 MUET launched the following degree programs to produce graduates exclusively in Telecommunication Engineering:

- B.E. (Telecommunication)
- M.E. (Communication Systems and Networks) and
- Ph.D

The objectives of offering these programs are:

1. To train students for exciting and successful careers as system designers and developers, engineering managers, analysts, educators and researchers.
2. To ensure effectiveness in producing graduates of high quality and value to telecommunication industry.
3. To produce graduates having in-depth disciplinary knowledge, necessary skills, innovation and creativity to formulate and solve problems through scientific and intuitive methods.
4. To produce professionals who adopt an approach of engineering analysis, design and management systematically, while working effectively in a multidisciplinary and multicultural environment.
5. To produce graduates with an understanding of responsibilities as professional engineers with full commitment to the professional ethics.
6. To groom individuals with research and analytical abilities.

#### **4.2.5.1 Teaching Staff of Telecommunication Engineering Department**

Following teaching staff is presently working in the Department of Telecommunication Engineering.

- |    |                             |  |
|----|-----------------------------|--|
| 1. | Chairman of the Department: | Dr. Aftab Ahmed Memon,<br>Phone: 022-2772277, 2772252-72 Ext. 6000   |
| 2. | Professors:                 | Dr. Aftab Ahmed Memon<br>Dr. Abdul Waheed Umrani   |
| 3. | Associate Professors:       | Dr. Faisal Karim Shaikh<br>Dr. Fahim Aziz Umrani   |
| 4. | Assistant Professors:       | Ms. Nafisa Zaki<br>Mr. Imran Ali Qureshi (on study leave)<br>Mr. Zulfiqar Ali Arain<br>Mr. Mohsin Ali Shah<br>Mr. Nasrullah Pirzada (on study leave)<br>Mr. Sajjad Ali Memon<br>Ms. Shanzah Shaikh |
| 5. | Lecturers:                  | Mr. Ayaz Ahmed Shaikh (on study leave)<br>Mr. Naveed Ahmed Umrani<br>Mr. Hyder Bux Mangrio<br>Ms. Saima Hafeez<br>Mr. Riaz Ahmed Soomro  |

Ms. Manorma Rathi  
 Mr. Mehran Mamonai  
 Mr. Faisal Ahmed Memon  
 Mr. Saadullah Kalwar  
 Mr. Umair Mujtaba Qureshi  
 Mr. Muhammad Zafisherhan Shah  
 Mr. Shakeel Ahmed Laghari

#### 4.2.5.2 Courses of Studies for B.E. Telecommunication Engineering

No.	Name of Subject	Marks		
		Theory	Practical	Total
<b>FIRST YEAR</b>				
<b>First Term</b>				
1.	Functional English	100	00	100
2.	Applied Calculus	100	00	100
3.	Introduction to Computing	100	50	150
4.	Basic Electrical Engineering	100	50	150
5.	Professional Ethics	50	00	50
<b>Total Marks</b>		<b>450</b>	<b>100</b>	<b>550</b>
<b>Second Term</b>				
6.	Basic Electronics	100	50	150
7.	Data Structure and Algorithms	100	50	150
8.	Introduction to Simulation Tools	00	50	50
9.	Linear Algebra & Analytical Geometry	100	00	100
10.	Pakistan Studies	50	00	50
11.	Islamic Studies/Ethics	50	00	50
<b>Total Marks</b>		<b>400</b>	<b>150</b>	<b>550</b>
<b>SECOND YEAR</b>				
<b>Third Term</b>				
12.	Differential Equations & Fourier Series	100	00	100
13.	Electrical Circuits	100	50	150
14.	Amplifiers & Oscillators	100	50	150
15.	Digital Electronics	100	50	150
16.	Engineering Economics & Management	100	00	100
<b>Total Marks</b>		<b>500</b>	<b>150</b>	<b>650</b>
<b>Fourth Term</b>				
17.	Complex Variables & Transforms	100	00	100
18.	Sequential Circuit Design	100	50	150
19.	Electromagnetics	100	00	100
20.	Linear Integrated Circuits & Filters	100	50	150
21.	Microprocessor & Interfacing Techniques	100	50	150
<b>Total Marks</b>		<b>500</b>	<b>150</b>	<b>650</b>
<b>THIRD YEAR</b>				
<b>Fifth Term</b>				
22.	Electromagnetic Waves & Radiating Systems	100	50	150

23.	Signals & Systems	100	50	150
24.	Numerical Analysis & Computer Applications	100	50	150
25.	Analog & Digital Communication	100	50	150
<b>Total Marks</b>		<b>400</b>	<b>200</b>	<b>600</b>
<b>Sixth Term</b>				
26.	Computer Communication & Networking	100	50	150
27.	Digital Signal Processing	100	50	150
28.	Probability & Stochastic Processes	100	00	100
29.	Opto-Electronics	100	00	100
30.	Radar System Engineering	100	50	150
<b>Total Marks</b>		<b>500</b>	<b>150</b>	<b>650</b>
<b>FINAL YEAR</b>				
<b>Seventh Term</b>				
31.	Spread Spectrum Communications	100	50	150
32.	Satellite Communications	100	50	150
33.	Wireless Communications	100	00	100
34.	Principles of Telecommunication Traffic Engineering	100	50	150
35.	Transmission & Switching Systems	100	50	150
<b>Total Marks</b>		<b>500</b>	<b>200</b>	<b>700</b>
<b>Eighth Term</b>				
36.	Broadband Digital Networks	100	50	150
37.	Microwave Engineering	100	50	150
38.	Fiber Optic Communication Systems	100	50	150
39..	Mobile Network Planning	100	50	150
40.	Project/Thesis	00	200	200
<b>Total Marks</b>		<b>400</b>	<b>400</b>	<b>800</b>

## 5. FACULTY OF ARCHITECTURE AND CIVIL ENGINEERING

The Faculty of Architecture & Planning was started in Mehran University of Engineering and Technology in 1986. This Faculty was renamed as Faculty of Architecture, Planning, Arts & Design in 2004. The Department of Architecture was established earlier in 1980 to discriminate knowledge about architectural aspects of building, built environment and landscaping. The Department of City & Regional Planning was established in 1992 to take-care of various planning aspects of land, environment and new developments such as colonies, townships and cities. The Faculty has been further renamed as Faculty of Architecture and Civil Engineering on 6.8.2009. The Faculty presently comprises of four teaching departments and one Centre of Excellence.

This faculty offers undergraduate, postgraduate studies and research leading to the following degrees:

Bachelor of Architecture	(B.Arch.)
Bachelor of City & Regional Planning	(B.CRP)
Bachelor of Civil Engineering	(B.Civil)
Bachelor of Environmental Engineering	(B.EE)
Master in Civil Engineering	(MCE)

Master in Construction Management Engineering	(MCM)
Master in Structural Engineering	(MSE)
Master in Irrigation and Drainage Engineering	(MIDE)
Master in Environmental Engineering	(MEE)
Master in City and Regional Planning	(MCRP)
Doctor of Philosophy	(Ph.D)

## 5.1 Department of Architecture

The complexity of modern buildings calls for the effective combination of skill and talent in the best interests of Architecture & Environment. The Department of Architecture offers a comprehensive curriculum in a modern field that encompasses City Planning includes environmental consideration for both urban and sub-urban settings. Studies in Architecture are related to design and construction of houses and other building types keeping in view the appearance, comfort, usability, optimization between expenditure, facilities and environmental friendliness.

The Department of Architecture offers a full-time five-year course leading to the degree of “Bachelor of Architecture (B.Arch.)”. The syllabus of the subjects is designed in such a way to acquaint the students with basic planning, aesthetics, design and drawing of plans and specifications of various buildings. At the same time, some subjects concerning the basic Architectural design including Computer Aided Design (CAD) and socio-economic design are also included in the curriculum. Teachings through lectures in the class rooms are adequately supported by studios and laboratory work. Thus, the number of laboratories have been established in the department, which include; Model Making, Computer Graphics, Photographics, Surveying and Environment and Materials Lab. A seminar hall and seminar Library have also been established to conduct the seminars and reference facilities in the department. In addition, frequent field visits are organized for the students to keep them abreast with the latest design and architectural practices in the country.

During the 5<sup>th</sup> /Final Year the students are also given a project/dissertation mostly for a building, in which they are expected to prepare designs, drawings and a project report. The degree of B.Arch. is awarded to the students after they have fulfilled all the requirements for the degree including passing of all examinations and tests for the practical work.

### 5.1.1 Teaching Staff of Architecture Department

Following teaching staff is presently working in the Department of Architecture.

- |    |                                |  |
|----|--------------------------------|--|
| 1. | Chairman of<br>the Department: | Dr. Afaque Haider Chohan<br>Phone: 022-2772293                                   |
| 2. | Professor:                     | Dr. Bhai Khan Shar (on lien)   |
| 3. | Associate<br>Professor:        | Mr. Naeem Irfan (on lien)<br>Dr. Afaque Haider Chohan                            |
| 4. | Assistant<br>Professors:       | Mr. Abdul Rehman Halepoto<br>Mr. Muhammad Hashim Jokhio<br>Mr. Moazam Ali Pathan |

Mr. Muhammad Afzal Brohi  
 Mr. Irfan Ahmed Memon  
 Ms. Raheela Leghari  
 Mr. Sabeen Qureshi (on study leave)  
 Ms. Shahnaila Ansari

5. Lecturers: Ms. Khalida Baloch  
 Ms. Farida Mugheri  
 Mr. Abdul Waheed Memon  
 Ms. Naheed Rohail  
 Mr. Mir Abdul Salam Talpur.  
 Ms. Firdous Parveen Soomro

### 5.1.2 Courses of Studies for Bachelor of Architecture

No.	Name of Subject	Marks		
		Theory	Practical	Total

#### FIRST YEAR

##### First Term

1.	Pakistan Studies	50	00	50
2.	Islamic Studies/Ethics	50	00	50
3.	Visual Communication	50	150	200
4.	Basic Design-I	50	100	150
5.	Physical Environment	100	00	100
6.	Statics	100	00	100
	<b>Total</b>	<b>400</b>	<b>250</b>	<b>650</b>

##### Second Term

7.	Functional English	100	00	100
8.	Basic Design-II	00	100	100
9.	History of Art & Architecture-I	100	00	100
10.	Building Materials	100	00	100
11.	Model Making	00	100	100
12.	Surveying	100	50	150
	<b>Total</b>	<b>400</b>	<b>250</b>	<b>650</b>

#### SECOND YEAR

##### Third Term

13.	Architectural Design-I	50	150	200
14.	Physical Environmental Studies-I	100	00	100
15.	History of Art & Architecture-II	100	00	100
16.	Sociology	50	00	50
17.	Computer Aided Design-I	50	50	100
18.	Strength of Materials-I	100	00	100
	<b>Total</b>	<b>450</b>	<b>200</b>	<b>650</b>



#### Fourth Term

19.	Architectural Design-II	50	150	200
20.	Building Services-I	100	00	100
21.	History of Art & Architecture-III	100	00	100
22.	Building Construction-I	100	00	100
23.	Computer Aided Design-II	50	50	100
24.	Theory of Structures	100	00	100
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

#### THIRD YEAR

##### Fifth Term

25.	Architectural Design-III	50	150	200
26.	Building Construction-II	100	00	100
27.	Structural Analysis	100	00	100
28.	Physical Environmental Studies-II	100	00	100
29.	Building Services-II	100	00	100
	<b>Total</b>	<b>450</b>	<b>150</b>	<b>600</b>

##### Sixth Term

30.	Architectural Design-IV	50	150	200
31.	Muslim Architecture	100	00	100
32.	Working Drawings & Details-I	50	100	150
33.	Concrete Design	100	50	150
34.	Building Economics	100	00	100
	<b>Total</b>	<b>400</b>	<b>300</b>	<b>700</b>

#### FOURTH YEAR

##### Seventh Term

35.	Architectural Design-V	50	150	200
36.	Landscape Design	100	50	150
37.	Working Drawings & Details-II	50	100	150
38.	Urban Planning & Design-I	100	50	150
39.	Structure in Architecture-I	100	00	100
	<b>Total</b>	<b>400</b>	<b>350</b>	<b>750</b>

##### Eighth Term

40.	Architectural Design-VI	50	150	200
41.	Interior Design	100	50	150
42.	Working Drawings & Details-III	00	150	150
43.	Urban Planning & Design-II	100	50	150
44.	Structure in Architecture-II	100	00	100
	<b>Total</b>	<b>350</b>	<b>400</b>	<b>750</b>

#### FINAL YEAR

##### Ninth Term

45.	Architectural Design-VII	100	200	300
46.	Quantity Surveying & Accounting	100	00	100
47.	Research & Development Project-I (Thesis Report)	00	250	250
	<b>Total</b>	<b>200</b>	<b>450</b>	<b>650</b>

### **Tenth Term**

48.	Research & Development Project-II (Thesis Project)	00	500	500
49.	Professional Practice & Management	100	00	100
	<b>Total</b>	<b>100</b>	<b>500</b>	<b>600</b>

## **5.2 Department of City & Regional Planning**

This is the second department established in the country in 1992, after the department of City and Regional Planning, University of Engineering and Technology, Lahore.

The department is devoted wholly for teaching theoretical courses and extends practical knowledge of City and Regional Planning in undergraduates for professional career in increasingly diversified fields of Planning.

In order to meet the ever increasing demand for qualified planners, to provide better and healthy living environment to the people, to ensure planned growth and to control planning activities in urban and rural areas of country a full-time four-year course is offered in the field of City and Regional Planning.

Keeping in view the baseline curriculum prepared by the National Curriculum Revision Committee constituted by the Higher Education Commission (HEC) the curriculum was revised and updated for 09-Batch and onward batches to bring it in line with local, national and international requirements and to introduce innovation to ensure quality of education and uniformity of curriculum in the Pakistani Universities, which is also in accordance with the recommendations of the Pakistan Council of Architects and Town Planners (PCATP).

The curriculum is designed in such a way that it involves a wide spectrum of activities regarding the preparation of development plans for villages, towns, cities, and regions. To provide the practical knowledge, the study visits of different towns and cities are conducted to collect the primary data about the physical, social and economic aspects of housing, infrastructure, traffic and transportation, slums and katchi-Abadies, etc. It also involves analysis, preparation and implementation of proposed policies, programs and plans for improvement/up-gradation of old urban areas and development of new settlements at City and Regional levels.

After qualifying, the graduates will serve the nation as professional planners in the public and private sectors concerned with different fields of planning, such as, the Town Planning Department, Local Government Department, Development Authorities, Sindh Katchi Abadies Authority, etc.

On successful completion of the entire requirement for the degree, the students will be awarded the degree of Bachelor of City and Regional Planning (B.CRP.).

The department offers the degree of M.CRP. The Two batches are admitted in year 2011 & 2012 respectively..

The department also offers the degrees of Master of Philosophy and Doctor of Philosophy in the field of City and Regional Planning. These programmes are organized under the Directorate of Postgraduate Studies.

### 5.2.1 Teaching Staff of City & Regional Planning Department

Following teaching staff is presently working in the Department of City & Regional Planning.

1. Chairman of the Department: Dr. Dost Ali Khowaja  
Phone: 022-2772294
2. Professor: Dr. Dost Ali Khowaja  
03003098468
3. Associate Professor: Mr. Manzoor Ali Dahri
4. Assistant Professor: Mr. Muhammad Masood  
Ms. Saima Kalwar  
Mr. Imtiaz Ahmed Chandio (on study leave)
5. Lecturers: Mr. Mumtaz Ali Langah (on study leave)  
Mr. Aftab Hussain Talpur (on study leave)  
Mr. Naveed Agro (on study leave)  
Mr. Taufique Ahmed Qureshi  
Mr. Fahad Ahmed Shaikh  
Mr. Irfan Ahmed Memon  
Mr. Noman Sahito

### 5.2.2 Courses of Studies for Bachelor of City & Regional Planning

No.	Name of Subject	Marks		
		Theory	Practical	Total

#### FIRST YEAR First Term

1.	Introduction to Planning	100	50	150
2.	Technical Drawing	50	100	150
3.	Calculus & Statistical Methods	100	00	100
4.	Islamic Studies/Ethics	50	00	50
5.	Pakistan Studies	50	00	50
6.	Model Making	00	100	100
	<b>Total</b>	<b>350</b>	<b>250</b>	<b>600</b>

## Second Term

7.	Socio-economic Aspects of Planning	100	00	100
8.	Architectural Design for Planners	50	100	150
9.	Surveying-I	100	50	150
10.	Planning Data Analysis	100	00	100
11.	Functional English	100	00	100
	<b>Total</b>	<b>450</b>	<b>150</b>	<b>600</b>

## SECOND YEAR

### Third Term

12.	History of Urban Planning	100	00	100
13.	Transportation Engineering	100	50	150
14.	Construction Technology	100	50	150
15.	Surveying-II	100	50	150
16.	Communication Skills & Report Writing	50	00	50
	<b>Total</b>	<b>450</b>	<b>150</b>	<b>600</b>

### Fourth Term

17.	Planning Law	100	00	100
18.	Housing	100	00	100
19.	Transportation Planning	100	50	150
20.	Mapping & Remote Sensing	100	50	150
21.	Computer Aided Design	50	50	100
	<b>Total</b>	<b>450</b>	<b>150</b>	<b>600</b>

## THIRD YEAR

### Fifth Term

22.	Site Planning and Urban Design	100	50	150
23.	Planning Techniques	100	00	100
24.	Urban Renewal	50	50	100
25.	Environmental Engineering	100	50	150
26.	Information and Database Management	50	50	100
	<b>Total</b>	<b>400</b>	<b>200</b>	<b>600</b>

### Sixth Term

27.	Research Methods	100	00	100
28.	Planning of New Towns	100	50	150
29.	Rural Planning	50	50	100
30.	Environmental Planning & Management	100	50	150
31.	Introduction to Geographical	50	50	100

	Information System			
	<b>Total</b>	<b>400</b>	<b>200</b>	<b>600</b>

## **FINAL YEAR**

### **Seventh Term**

32.	Project Planning & Management	100	50	150
33.	District & Regional Planning	100	50	150
34.	Community Development	50	50	100
35.	Landuse & Building Control	50	50	100
36.	Master Planning-I	50	50	100
	<b>Total</b>	<b>350</b>	<b>250</b>	<b>600</b>

### **Eighth Term**

37.	Master Planning-II	100	100	200
38.	Estate Management	100	00	100
39.	Finance Planning & Management	100	00	100
40.	Planning Practice	50	00	50
41.	Project/Thesis	00	200	200
	<b>Total</b>	<b>350</b>	<b>300</b>	<b>650</b>

### **5.3 Department of Civil Engineering**

Civil Engineering is the process of directing and controlling natural resources for the use and benefit of human kind through construction of various structures. It applies engineering practices to the planning, design, construction and operation and maintenance of structures such as buildings, roads, bridges, railways, factories, airports, irrigation schemes, docks, harbors, dams, flood control systems, water supply and sewerage disposal schemes etc. Thus, civil engineering is the largest and broadest discipline of engineering.

The Department of Civil Engineering of the University provides essential and advance engineering education according to the requirements of field. The various fields of specialization are introduced to the final year students by assigning them a thesis project. The thesis projects may be specific to a particular branch of Civil Engineering like Structural Engineering, Geotechnical Engineering, Construction Management etc.

The department teaches many courses relevant to the various fields of Civil Engineering that is Structural Engineering, Geotechnical Engineering, Irrigation & Drainage Engineering, Transportation Engineering, Environmental Engineering, Construction Engineering & Management etc. Theory classes of different subjects are complemented by tutorials and laboratory works, for which adequate facilities with equipment have been established. In addition, the students are taken to field visits of the Civil Engineering projects such as water distribution structures, bridge & building structures, road construction works, geotechnical works etc. During the summer vacations the students are also sent on various Civil Engineering projects for internship. This is to expose them to practical engineering practices being actually implemented.

The Department also offers postgraduate courses leading to degrees such as Post-Graduate Diploma (P.G.D.), Master of Civil Engineering (MCE.), Master of Philosophy (M.Phil.) and Doctor of Philosophy (Ph.D.) in the following fields.

- Structural Engineering
- Highways and Traffic Engineering
- Construction Management
- Geotechnical Engineering

The department has also set up a Software Laboratory which provides computing facility using applications of Software in Civil Engineering.

### **5.3.1 Teaching Staff of Civil Engineering Department**

Following teaching staff is presently working in the Department of Civil Engineering.

1. Chairman of the Department: Dr. Ghous Bux Khaskheli  
Phone: 022-2771269  
Fax No. 0222-771451
2. Professors: Mr. Mumtaz Ali Memon  
Dr. Ghous Bux Khaskheli  
Mr. Gul Hassan Memon  
Mr. Muhammad Yousif Kumbher  
Dr. M. Mehboob Gugarman  
Dr. Abdul Sami Qureshi  
Dr. Tauha Hussain. Ali  
Dr. Aneel Kumar  
Dr. Rizwan Ali Memon  
Dr. Khalifa Qasim Laghari  
Dr. Nafees Ahmed Memon
3. Associate Professors: Mr. Allah Bux Memon  
Mr. Atta Muhammad Phul  
Mr. Abdul Rashid Memon  
Dr. Zubair Ahmed Memon
4. Assistant Professors: Mr. Pervez Shaikh  
Mr. Ghulam Hussain Mahesar  
Mr. Jawaid Kamal Ansari  
Dr. Ashfaqe Ahmed Memon  
Mr. Hizbullah Memon  
Mr. Ashfaqe Ahmed Pathan (on study leave)  
Dr. Kamran Ansari  
Mr. Arshad Ali Memon  
Dr. Zaheer Ahmed Almani  
Mr. Fareed Ahmed Memon (on study leave)  
Mr. Samar Hussain Rizvi  
Dr. Naeem Aziz Memon
5. Lecturers: Dr. Agha Faisal Habib

Mr. Jawed Qureshi (on study leave)  
 Mr. Amjad Ali Pathan (on study leave)  
 Mr. Shabir Hussain Khahro  
 Mr. Masroor Ali Jatoi

### 5.3.2 Courses of Studies for B.E. Civil Engineering

No.	Name of Subject	Marks		
		Theory	Practical	Total

#### FIRST YEAR

##### First Term

1.	Functional English	100	00	100
2.	Introduction to Computers & C++ Programming	100	50	150
3.	Engineering Drawing	100	50	150
4.	Civil Engineering Materials	100	50	150
5.	Basic Electro Mechanical Engineering.	100	00	100
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

##### Second Term

6.	Islamic Studies/Ethics	50	00	50
7.	Pakistan Studies	50	00	50
8.	Applied Calculus	100	00	100
9.	Surveying-I	100	50	150
10.	Engineering Mechanics	100	50	150
11.	Civil Engineering Drawing	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

#### SECOND YEAR

##### Third Term

12.	Engineering Geology	100	50	150
13.	Strength of Materials-I	100	00	100
14.	Surveying-II	100	50	150
15.	Transportation Engineering	100	00	100
16.	Differential Equations, Fourier Series & Laplace Transforms	100	00	100
	<b>Total</b>	<b>500</b>	<b>100</b>	<b>600</b>

##### Fourth Term

17.	Complex Analysis, Statistical Methods & Probability	100	00	100
18.	Architecture & Town Planning	100	00	100
19.	Construction Engineering	100	00	100
20.	Theory of Structures	100	00	100

21.	Fluid Mechanics & Hydraulics-I	100	50	150
22.	Plain & Reinforced Concrete	100	50	150
	<b>Total</b>	<b>600</b>	<b>100</b>	<b>700</b>

### THIRD YEAR

#### Fifth Term

23.	Linear Algebra & Numerical Methods	100	50	150
24.	Strength of Materials-II	100	50	150
25.	Structural Analysis	100	00	100
26.	Fluid Mechanics & Hydraulics-II	100	50	150
27.	Steel Structures	100	50	150
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

#### Sixth Term

28.	Modern Methods & Structural Analysis	100	50	150
29.	Applied Hydraulics	100	50	150
30.	Reinforced & Prestressed Concrete	100	50	150
31.	Soil Mechanics	100	50	150
32.	Quantity Surveying & Estimation	100	00	100
	<b>Total</b>	<b>500</b>	<b>200</b>	<b>700</b>

### FINAL YEAR

#### Seventh Term

33.	Structural Design & Drawing	100	50	150
34.	Irrigation Engineering	100	50	150
35.	Geotechnical Engineering	100	50	150
36.	Environmental Engineering-I	100	50	150
37.	Highway & Traffic Engineering	100	50	150
	<b>Total</b>	<b>500</b>	<b>250</b>	<b>750</b>

#### Eighth Term

38.	Environmental Engineering-II	100	00	100
39.	Drainage Engineering	50	00	50
40.	Foundation Engineering	100	00	100
41.	Construction Management & Planning	100	50	150
42.	Hydrology	50	50	100
43.	Operation Research	50	00	50
44.	Thesis/Project	00	200	200
	<b>Total</b>	<b>450</b>	<b>300</b>	<b>750</b>

#### 5.4. Institute of Environmental Engineering & Management

With increased awareness about environmental issues at the global and national levels, environmental engineering has become a fast emerging discipline with vast scope for



progression in the future. The Institute of Environmental Engineering and Management (IEEM) has been established with the aim of creating new knowledge and finding innovative solutions to local and global environmental issues through application of such knowledge. There is lot of hue and cry for control of the pollution in the urban and rural areas, oceans, rivers and agriculture lands. Today, Pakistan stands on the threshold of implementing environmental standards. Environmental Protection Agencies (EPAs) of the four provinces and federal government have been assigned the task to implement environmental standards and therefore there will be great need for large number of qualified expert in field of environmental engineering. The scope of an Environmental Engineer goes beyond the community and regional levels to global level.

The Bachelor of Engineering (BE) program is based on sound theoretical knowledge and through the practical training supported by field practical and industrial training.

The syllabus includes subjects like Basic Sciences, Computer Sciences, Fluid Mechanics, Hydraulics, Survey, Water and Waste Water Engineering, Renewable Energy, Waste Management Environmental Health & Safety, Hazardous Waste Risk Assessment, Cleaner Production, Modeling of Environmental System and numerical analysis. The BE degree will make the students eligible for admission to post graduate degree (ME and Ph.D. in Environmental Engineering). We have highly qualified faculty having Ph.D. and ME from abroad, prepare the IEEM graduates to achieve excellence in their career.

#### 5.4.1 Teaching Staff of Institute of Environmental Engineering & Management

Following teaching staff is presently working in the Institute of Environmental Engineering & Management.

- |    |  |   |
|----|--|---|
| 1. | Co-Director/Chairman,<br>Environmental Engg.<br>Department | Prof. Dr. Rasool Bux Mahar<br>Phone 022-2771182                             |
| 2. | Professors:  | Dr. Khan Muhammad Brohi<br>Dr. Rasool Bux Mahar                             |
| 3. | Associate<br>Professor:                                    | -   |
| 4. | Assistant<br>Professors:                                   | Mr. Muhammad Ali Memon<br>Mr. Sheeraz Ahmad Memon (on study leave)          |
| 5. | Lecturers:   | Mr. Mohammad Safar Korai<br>Mr. Asif Saleh Qureshi<br>Mr. Imdad Ali Kandhir |
| 6. | Visiting<br>Faculty:                                       | Dr. Muhammad Yar Khahawer<br>Prof. Abdul Sattar Soomro                      |

#### 5.4.2 Courses of Studies for B.E. Environmental Engineering

No.	Name of Subject	Marks		
		Theory	Practical	Total

**FIRST YEAR****First Term**

1.	Pakistan Studies	50	00	50
2.	Islamic Studies/Ethics	50	00	50
3.	Electrical Technology	50	50	100
4.	Introduction to Environmental Engineering	100	00	100
5.	Computer Aided Learning	50	50	100
6.	Surveying	100	50	150
7.	Introduction to Environmental Physics	50	00	50
	<b>Total</b>	<b>450</b>	<b>150</b>	<b>600</b>

**Second Term**

8.	Functional English	100	00	100
9.	Applied Calculus	100	00	100
10.	Environmental Chemistry	50	50	100
11.	Engineering Mechanics	100	50	150
12.	Introduction to Computer Programming	100	50	150
	<b>Total</b>	<b>450</b>	<b>150</b>	<b>600</b>

**SECOND YEAR****Third Term**

13.	Ecological Management	100	00	100
14.	Environment and Human Interaction	50	00	50
15.	Linear Algebra & Analytical Geometry	100	00	100
16.	Fluid Mechanics	100	50	150
17.	Thermodynamics	100	50	150
18.	Environmental Microbiology	50	50	100
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

**Fourth Term**

19.	Environmental Economics	100	00	100
20.	Sustainable Development	50	00	50
21.	Differential Equations & Fourier Series	100	00	100
22.	Computer Aided Design and Drafting	50	100	150
23.	Plumbing Design	100	00	100
24.	GIS & Remote Sensing	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

**THIRD YEAR****Fifth Term**

25.	Water supply and wastewater Engineering	100	50	150
26.	Numerical Analysis	100	50	150
27.	Soil Mechanics	100	00	100
28.	Engineering Hydrology	100	00	100
29.	Solid Waste Management	100	50	150
	<b>Total</b>	<b>500</b>	<b>150</b>	<b>650</b>

### Sixth Term

30.	Energy Resources & Management	100	00	100
31.	Principles of Water and Wastewater Treatment	100	00	100
32.	English Communication Skills	100	00	100
33.	Statistical Methods & Estimation	100	00	100
34.	Air & Noise Pollution Control	100	50	150
35.	Power Plant Engineering	100	00	100
	<b>Total</b>	<b>600</b>	<b>50</b>	<b>650</b>

### FINAL YEAR

#### Seventh Term

36.	Water Resources & Irrigation Engineering	100	50	150
37.	Natural Resources Management	100	00	100
38.	Environmental Health & Safety	100	00	100
39.	Modeling of Environmental Systems	100	50	150
40.	Environmental Engineering Lab Techniques	50	50	100
41.	Design Project-I	00	100	100
	<b>Total</b>	<b>450</b>	<b>250</b>	<b>700</b>

#### Eighth Term

42.	Hazardous Waste Risk Assessment	100	00	100
43.	Cleaner Production Techniques	100	00	100
44.	Environmental Impact Assessment & Management	100	00	100
45.	Project Planning & Management	100	50	150
46.	Design Project-II	00	200	200
	<b>Total</b>	<b>400</b>	<b>250</b>	<b>650</b>

### 5.5 Center of Excellence in Arts & Design.

The Center of Excellence in Arts & Design provides education including study trips to various institutions and places of academic importance within country and offer degree programs at undergraduate levels in the following disciplines:

- (a) **Faculty of Fine Arts**

Bachelor of Fine Art (4 Years) with following specializations;

Planning  
Printmaking  
Sculpture and  
Miniature Painting

**(b) Faculty of Design**

Bachelor of Design (4 years) with following specializations;

Textile Design  
Communication Design and  
Ceramic Design

**(c) Faculty of Architecture**

Bachelor of Architecture and Planning

The Centre reserves 100 seats for the regular scheme, the allocation of seats is as follows:

Category	Description	Seats on Quota	No. of Seats			
			Faculty			
			AR	DS	FA	Total
1	Sindh	50	17	17	16	50
2	Punjab	15	5	5	5	15
3	Balochistan	15	5	5	5	15
4	Khyber Pakhtoon Khawah	9	3	3	3	9
5	Azad Kashmir	3	1	1	1	3
6	Gilgit Baltistan	2	1	1	-	2
7	FATA	2	1	-	1	2
8	Federal C. Area	2	-	1	1	2
9	CEAD Kinship	2	-	1	1	2
<b>Total Local</b>			<b>33</b>	<b>34</b>	<b>33</b>	<b>100</b>
10 (Foreigners)	Students from Foreign	9	3	3	3	9
<b>Grand Total</b>			<b>36</b>	<b>37</b>	<b>36</b>	<b>109</b>

All International Students should forward, their application forms to their respective Embassies. The Embassies route their applications to the Centre of Excellence in Arts and Design, through the Mehran University of Engineering & Technology, Jamshoro.

**Admission on Self Finance basis**

Applications for admission shall be invited separately by the Centre through advertisement in the Prominent regional and National Newspaper with full schedules for the submission of applications and the details of the admission and examination procedures.

For further information contact:

Dr. Bhai Khan Shar,  
Director,  
Center of Excellence in Arts & Design,  
East Toll Plaza, Super Highway,  
Jamshoro, Sindh, Pakistan  
Phone No. 022-2908319  
www.cead.edu.pk

## **6. FACULTY OF SCIENCE, TECHNOLOGY & HUMANITIES**

The Faculty of Science, Technology & Humanities comprises on the following Department, Institutes, Center and affiliated Colleges:

### **6.1 Department of Basic Sciences & Related Studies (BSRS)**

This department teaches the courses of Mathematics including Statistics, Computer Science, Pakistan Studies and Islamic Studies/Ethics. The courses of Mathematics and Computer Sciences are also taught to the postgraduate students of the University. The department also participates in offering short courses on various aspects of computer oriented courses. The extensive research work is also carried out by the teachers of this department. Two Ph.ds. student have been produced in the field of Finite Element Simulation (2004) and also “Finite Element Modeling of Blood Flow” (2012) and a Post-graduate research student is registered for leading to Ph.D degree. This department is awarded Research productivity by Pakistan Council for Science & Technology in the year 2003-2004 on the basis of research conducted during the year 2002. The department is intending to start 2-year M.Phil Program in the year 2013. This will help the students of Mathematics, Statistics, Physics and Engineering to further improve their knowledge and qualifications in Applied Mathematics.

#### **6.1.1 Teaching Staff of Basic Sciences & Related Studies Department**

Following teaching staff is presently working in the department of Basic Sciences & Related Studies.

- |    |                            |   |
|----|----------------------------|---|
| 1. | Chairman of the Department | Dr. Abdul Razak Ghanghro,<br>Ph:022-2771409, 2772250-73 ext (2200)  |
| 2. | Professors:                | Dr. Ahsanullah Baloch<br>Dr. Abdul Razzak Ghanghro  |
| 3. | Associate Professor:       | -   |
| 4. | Assistant Professors:      | Mr. Khan Muhammad Chajro<br>Ms. Yasmeen Zafar<br>Mr. Saifullah Abro<br>Dr. Muhammad Anwar Solangi<br>Mr. Ghulam Yasin Bhutto<br>Mr. Asif Ali Shaikh<br>Mr. Feroz Shah<br>Mr. Ghulam Abbas Mahar |

Mr. Abdul Saleem Memon

5. Lecturers:
- Ms. Naseem Khalid Memon
  - Mr. Rahim Bux Khokhar (on study leave)
  - Ms. Saima Bhatti
  - Mr. Imran Qasim Memon
  - Mr. Hafiz Abdul Aziz Memon
  - Ms. Sania Qureshi
  - Mr. Muhammad Urs Jhatial
  - Mr. Ayaz Ali Siyal
  - Ms. Zaibunisa
  - Mr. Shafkat Chandio
  - Mr. M. Mujtaba Shaikh
  - Mr. Ali Asghar Sangah
  - Ms. Fozia Shaikh
  - Mr. Hameer Akhtar Abro
  - Mr. Zafar Ali Bhatti
  - Mr. Mukhtiar Ahmed Metlo

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## **6.2 English Language Development Centre**

In the year 1988 Mehran University established English Language Development Centre with the support of British Council and the then University Grants Commission, to help in developing the four skills of language learning among students. The courses are designed to help students develop listening and reading skills to comprehend technical subjects which are complex and difficult. The class room activities provide students with opportunities to engage in group discussion, use English Language actively for asking questions, expressing views and opinion and give presentation and write original assignments, thus English Courses at MUET make student use English Language as a tool for effective communication inside and outside classroom.

The Centre consists of Self-Access Centre, which allows the students to improve English on self-help basis and by attending language laboratory students are exposed to different varieties of accents, stress patterns and intonation which cause problems to non native users of English Language. The Centre also assists in the training of teachers in the areas of teaching and preparation for tests such as TOEFL, IELTS, GRE and G.MAT.

### **6.2.1 Teaching Staff**

Following teaching staff is presently working in the English Language Development Centre.

- |    |                             |                                   |
|----|-----------------------------|-----------------------------------|
| 1. | Director Incharge<br>ELDC : | Ms. Rosy Ilyas<br>Ph: 022-2771286 |
| 2. | Professor:                  | -                                 |
| 3. | Associate<br>Professor:     | -                                 |
| 4. | Assistant<br>Professor:     | Ms. Rosy Ilyas                    |

5. Lecturers: Mr. Mohib Ali Korejo  
Ms. Quratul Ain Mirza  
Mr. Habibullah Pathan (on study leave)  
Mr. Jam Khan Muhammad  
Mr. Shoukat Ali Lohar  
Ms. Sahib Khatoon

### **6.3 Mehran University Institute of Science, Technology & Development (MUISTD)**

Mehran University Institute of Science, Technology & Development (MUISTD) is established at Jamshoro to produce much required highly qualified manpower at various levels of policy, management and administration for promotion and development of Science and Technology Enterprise and Innovation Management in private and public sectors.

The development of Science and Technology (S & T) is closely linked with an important national goal of rapid and sustainable socio-economic development. MUISTD is, hence established with a wide mandate to produce highly qualified manpower at M.S., M.Phil and Ph.D degree level. As well as, formally train the existing personnel already in charge in this field and conduct research on all aspects of an effective and viable S&T policy framework to achieve this objective.

It is envisaged to be a center of excellence for teaching, training and research required to respond to the modern day challenges and to cater to the needs of socio-economic development of the country. Its Research and Development (R&D) activities are aimed at focusing on all important issues relating to contents, development, management, and exploitation of human and natural resources and other means and methods for rapid socio-economic uplift of the country. The clients of research results and training of this institute would be the Universities, R&D organizations, Government, Industry, Business individuals in public and private sector, national and international organizations, other developed and developing countries etc. It is intended to serve as a nerve centre and conduct practical review of the situation currently and futuristically, and render suitable advice for the required scientific and technological development to Academics, Research, Industry, Business, Government, etc.

MUISTD, therefore, is aimed at developing knowledge and devising sustainable S&T policies in consonance with the national priorities and goals taking different perspectives of socio-economic development into account.

#### **Contact:**

Prof. Dr. Pir Roshanuddin S. Rashdi  
Co-Director  
Tel 022-2772430-31  
Fax 022-2772432  
E-mail [pirrashdi@yahoo.com](mailto:pirrashdi@yahoo.com)  
[codirector.muistd@muet.edu.pk](mailto:codirector.muistd@muet.edu.pk)

Dr. Qazi Muhammad Moinuddin,  
Secretary

Tel 022-27722433  
Fax 022-2772432  
E-mail [qaziabro@gmail.com](mailto:qaziabro@gmail.com)

### **6.3.1 Management and Faculty**

Dr. S.M.Qureshi  
Professor Emeritus &  
Director (Honorary)

Prof. Dr. Pir Roshanuddin Shah Rashdi  
Prof. Dr. Muhammad Aslam Uqaili (Associated Faculty)  
Prof. Dr. Bhawani S. Chowdhry (Associated Faculty)  
Prof. Dr. Mujeeb-uddin Sehrai (Associated Faculty)  
Prof. Dr. Hafeez-ur-Rehman Memon (Associated Faculty)

Assistant Professors: Mr. Zahid Ali Memon (on study leave)  
Ms. Iffat Batool Naqvi  
Dr. Arbella Bhutto  
Mr. Qazi Muhammad Moinuddin

Lecturers: Mr. Irfanullah Shah Rashdi  
Mr. Wahid Bux Mangrio

### **6.4 Affiliated Colleges/Institutes**

Following Colleges/Institutes are affiliated with Mehran University.

1. Government College of Technology, Hyderabad is affiliated with Mehran University which offers courses in B.Tech.(Pass) and B.Tech.(Hons.) in Civil, Electrical and Mechanical Technologies. Mehran University conducts the examinations of this college and awards degrees. Further information of these courses may be obtained from:

The Principal,  
Government College of Technology,  
Hyderabad.  
Phone: 022-3654791 & 3652982

2. The Hyderabad Institute of Arts, Science and Technology, Hyderabad is affiliated with Mehran University which offers courses in BS (Information Technology) and MS (Business Information Technology). The Pre-admission Test of the candidates will be conducted by the agency prescribed by Mehran University of Engineering and Technology, Jamshoro. Also Mehran University conducts the examinations of this Institute and award degrees. Further information of these courses may be obtained from:

Lt. Col. M. Khalid Khan Retd. (TI (M)),  
Executive Director,  
Hyderabad Institute of Arts, Science & Technology,  
Auto Bhan Road, Hyderabad  
Phone: 022-3812537-8



3. Hyderabad College of Science and Technology, Hyderabad is affiliated with Mehran University which offers courses in B.Tech.(Pass) and B.Tech.(Hons.) in Civil, Electrical and Mechanical Technologies. Mehran University conducts the examinations of this college and awards degrees. Further information of these courses may be obtained from:

The Principal,  
Hyderabad College of Science & Technology,  
Hyderabad.  
Phone: 022-3869707 & 3820247

## **7. SUPPORT FACILITIES FOR STUDENTS AND OTHER COMPONENTS**

Many facilities have been developed and established in the University to provide assistance to the students in their studies as well as other related activities and leisure. These facilities and establishment are briefly described below:

### **7.1 Residential Accommodation**

Eight hostels including two for female students, are available for the undergraduate students accommodation. The hostels can accommodate a total of 1150 students. Since the available seats for the upcoming batch is very limited, the University is not able to accommodate the students of first year. The students are advised to arrange the private accommodation. Overall, the preference is given to the most needy students who belong to farther areas of the province.

All the students who are interested in hostel accommodation can apply through a prescribed form which is available in the Provost office. All the residents have to follow strictly the hostel rules and regulations. The hostels are managed by the Provost Hostels, Additional Provost Hostels, Deputy Provost Hostels and Wardens.

For any further information, please contact:

Dr. Dur Muhammad Pathan,  
Provost (Hostels),  
Telephone No. 022-2772299

### **7.2 Library Facilities**

The Mehran University of Engineering & Technology Library & Online Information Center contains more than 125000 books related to Engineering Science and Technology. Access to 29 E-databases for electronic journals and e-books are available on-line within the university campus and outside the campus under Digital Library Program; a Project of Higher Education Commission, most of these resources are available in full text.

There are more than 19000 text books in the Book Bank which are loaned to students for one term on nominal rent. The collection of books is updated continuously and new books are acquired on the recommendations of experienced faculty members, which makes collection most suited and beneficial to graduate and under-graduate students. In addition, latest reference and other books are also acquired every year to keep the users of the library abreast with the latest information on Science & Technology specially engineering and its allied subjects.

In addition to providing the readers with in-house collection services are also provided for inter-library loan and photocopying of literature including technical information centers within and outside Pakistan. This service is further enhanced by cooperation among Muslim Countries under COMSTECH.

**The Mehran University of Engineering & Technology Library & Online Information Center also offers following services:**

- \* In MUET Library & Online Information Center students and faculty members are also provided internet facility to use computer for their project work for which PCs are installed in the Online Information Center of the library with a network printer and photocopier.
- \* The Catalog of books is computerized and accessible through library of congress gateway <http://www.loc.gov/z3050> serving one point access interface for books catalog, full-text electronic journals and e-books on web.
- \* There are also a blogs <http://www.muett/facultycoordination.blogspot.com> to give the access of books recommended in teaching plan, another blog <http://www.mueteresources.blogspot.com> to give the access of e-books, Journals, video lectures, dictionaries and encyclopedias etc., and <http://muetdigitallibrary.blogspot.com> E-books, Journals, Tutorials and Thesis's guidance.
- \* The MUET Library & Online Information Center also offers Wi-Fi service.
- \* The library is heavily used by the students, faculty members and researchers and is open from 8:00 am to 9:00 p.m. and also on Sunday during examination period. Professional staff available at service points to meet needs of the readers. Besides the MUET Library & Online Information Center individual departments have established their own seminar libraries, which cater to the specific needs of the departments. A union catalogue of books available on Campus is also functional. Library is connected to all departments through fiber optic network/internet giving access to CD and DVD Rom databases available in the Library also.

### **7.3 Information and Communication Processing Centre**

Information provisioning is recognized as the most integral service in Education domain that underpins all departmental and interdepartmental activities, Information Communication and Processing (ICPC) is instituted for the purpose. The centre utilizes high speed Optical Fiber to ensure access to information at lightning speed. Equipped with latest devices and servers; the Centre is dedicatedly working to provide 24hr data and voice services to Admin block, departments and Hostels.

To encourage Research and development related activities between universities and uplift MUET at National level, the centre connects MUET with fifty two (52) other universities through PERN (Pakistan Educational Research Network). Besides the students are ensured unhampered services through VPN accounts, which is provided on request, to work from their homes for 24 hrs.

Following are some of the facilities student would be able to avail:

- High Speed Internet connection with backbone of 100MB.
- High speed network laid entirely on Fiber Optics.
- 24hrs Voice Exchange/Intercom services.
- Digital Library Services through PERN.
- HEC online journals access through PERN.
- VPN service for students working from their Homes.
- Online Courseware / Material and presentations.
- Hardware and Software resources sharing.
- Video Conferencing System (Lectures and Presentations sharing) between all Universities of Pakistan through PERN.
- Provide Email accounts on MUET domain.
- Free Access to Genuine Microsoft Software (Operating System and Application Software).

Prof. Dr. Aftab Ahmed Memon,  
Director,  
Information Communication and Processing Centre (ICPC)  
Phone: (022) 2772277 Ext: 6000

Engr. Khurram Shahzad Bhatti.  
Additional Director  
Information Communication and Processing Centre (ICPC)  
Phone: (022) 2772250-73 Ext: 2090

#### **7.4 Medical Assistance**

A part-time dispensary has been established in one of the hostels for the resident students, which is manned by a qualified doctor and a dispenser. Adequate quantity of essential medicines are also available in the dispensary for the minor ailments. Major sickness problems are referred to Liaquat University Hospital, which is quite nearby. An ambulance is also available for the sick students to take them to the hospital in any emergency.

#### **7.5 Transport Facilities**

The University has deployed buses for the use of students on various routes between the Campus and Hyderabad/Qasimabad/Latifabad/Kotri. Students have to pay nominal transport charges on yearly basis for the use of this facility.

#### **7.6 Sports Facilities**

The Directorate of Sports is responsible to entertain the students of this University by arranging Indoor and Outdoor sports events i.e. Inter Hostel for hostler students and Inter Department for department competitions.

The University also organizes and participate Interuniversity Sports Events in a large number. Previously lot of the University students has remained Gold, Silver and Bronze Medalist. The University sports teams not only participate in Sindh Universities Sports Gala event but this University has also organized the same event at a high level.

The newly joining students can participate in Inter Department, Inter Hostel and Interuniversity Events particularly in Basketball, Shooting ball, Squash, Table Tennis, Badminton, Athletics, Cricket, Football, Hockey, Tug of War, Handball, Malh, Chess, Tennis etc. In addition coaching camps for the training of students/players are arranged game wise, the selection of the university sports teams is purely consist on merit and performance of the layers. The sports Material for playing games on behalf of this university will be provided by the directorate of sports.

This University also provides sports material to all the hostels through the Provost Hostels for daily practice. This university organizes Interuniversity Sports Events between 03-04 universities under its own objectives.

These sports are organized and managed by the Directorate of Sports, which is headed by:

Engr. Najeeb-ur-Rehman Channa  
Director Sports,  
Phone: 0221-771530 Mobile: 0300-9373574

#### **7.7. Financial Aid:**

**Student Financial Aid Office (SFAO):**  
(Established in August, 2006)

Many of students are admitted in this University from various rural community areas and they belong to poor or middle class families, while it is noted that today's expenditures on education have become very high, consequently it is difficult for them to pursue their education due to financial constraints.

Mehran University of Engineering and Technology, Jamshoro by realizing the continuous rise in educational exposes, has taken initiative for providing financial relief to meritorious and deprived students with the financial assistances/need based scholarship programs. In this regards, Mehran University of Engineering & Technology established the "Student Financial Aid Office" (SFAO) in August 2006, to elevate the socio-economic position of the needy & deserving students by providing access to quality education through Need-based and Merit Scholarships.

Now all Scholarships/financial Aid Cases are routed through Student Financial Aid Office (SFAO). A centralized record of all students getting any Financial Aid is kept in the Student Financial Aid Office (SFAO).

#### Persons to be contacted:

1. Prof. Dr. Tauha Hussain Ali  
Focal Person SFAO
2. Mr. Kashif Usman Dars,  
Assistant Director, (SFAO)

Phone # + 92 22 2772701  
Fax # + 92 22 2771274

Email: Kashif.dars@admin.muuet.edu.pk

## 7.8 Directorate of Industrial Liaison

A Directorate of Industrial Liaison has been established in the University to facilitate the organization of industrial/field training for the students of the University. In addition to arranging the practical training for the undergraduate students, the Directorate of Industrial Liaison also performs the following functions.

- To collaborate with the industries for identifying their problems and attempting to solve them through efforts of experienced and qualified professors of the University.
- To arrange exchange of technical staff between the University and industry for the mutual; benefit of the both.
- To guide and supply information to the final year students regarding their possible employment in the industrial/commercial sector.
- To arrange internships during summer and winter vacations for the students.

Further information may be obtained from:

Dr. Muhammad Moazam Baloch,  
Director,  
Industrial Liaison,  
Ph: 022-2771425

## 7.9 Students' Advisory Committee

Mehran University Students' Advisory Committee was formed to bridge the gap between administration, teaching community and students. Committee helps students to organize academic and social activities and also to resolve their academic and legal grievances.

1. **Prof. Dr. Khan Muhammad Brohi,**  
Director, Institute of Environmental Engg. & Management,  
**Advisor Students' Affairs**  
Phone 0222772753  
Cell No. 0300-3048281
2. **Prof. Tahseen Hafiz,**  
Chairman, Department of Software Engg.  
**Deputy Advisor Students' Affairs,**  
Cell No. 0300-9371015
3. **Prof. Ghulam Abbas Mahar,**  
Assistant Professor,  
Department of Basic Sciences & Related Studies,  
**Deputy Advisor Student' Affairs**  
Cell No. 0345-3530672

4. **Prof. Hafiz Arshad Ali Memon,**  
Assistant Professor,  
Department of Civil Engineering  
**Deputy Advisor Students' Affairs**  
Cell No. 0300-3055407

## **7.10 Other Directorates and Institutes**

There are a number of other Directorates and Institutes, which are not directly involved in teaching or other aspects of the undergraduate program. Nevertheless, they perform important functions and the faculty members are usually shared between these institutes/directorates and the undergraduate programs. Therefore, they are an important linkage for the various programs of the University and are briefly described below.

### **7.10.1 Directorate of Postgraduate Studies**

This Directorate was first established in the University in 1978, to design and organize postgraduate studies in the University. At present, postgraduate programs leading to Masters and PhD degrees in Architecture, Civil Engineering, City & Regional Planning, Chemical Engineering, Construction Management, Energy Systems Engineering, Industrial Engineering & Management, Material Science & Technology, Manufacturing Engineering, Mechanical Engineering, Mining Engineering, Structural Engineering and Textile Engineering are offered by this directorate. A separate prospectus is published for the postgraduate studies and can be obtained from:

Prof. Dr. Khanji Harijan  
Director, Postgraduate Studies  
Phone: 022-2771214  
E-mail: [director.pgs@admin.muett.edu.pk](mailto:director.pgs@admin.muett.edu.pk)

### **7.10.2 Institute of Water Resources Engineering and Management**

Since irrigation plays a crucial role in the agriculture sector through out Pakistan, and particularly in Sindh province. The above named Institute was established in 1987 to cater for specialized needs of the water resources Engineering and management. The Institute offers full-time (morning and evening) programs for degrees of M.E., M.Phil. and Ph.D. Further information in this regard may be obtained from:

Prof. Dr. Bakhshal Khan Lashari,  
Director,  
Institute of Water Resources Engineering & Management,  
Phone: 022-2771226  
E-mail: [bakhshall@yahoo.com](mailto:bakhshall@yahoo.com)  
[bakhshal.lashari@faculty.muett.edu.pk](mailto:bakhshal.lashari@faculty.muett.edu.pk)

### **7.10.3 Institute of Environmental Engineering and Management**

## **INTRODUCTION**

Environment is now a global issue and it is deteriorating day by day. If protective measures are not addressed, the global economy would be adversely affected. World wide Ozone depletion and disposal of Waste are big issued which need to be solved by

producing qualified Environmental Engineers. Pakistan is a developing country and relies on Agro-based industry that now faces competition under the umbrella of world trade Order (WTO). As per WTO, it certifies to those products, which must be ISO 9000 and ISO 14000.

Pakistan requires trained personnel needed to be dealt with Environmental Management System in which they be made skillful in Water Engineering, Wastewater Engineering, Solid waste Management and Air pollution and Control Equipment. Altogether 12 courses are designed which make student capable to make himself an environmental engineer. IEEM has very good faculty in the University and offers PGD/ME in Environmental Engineering meanwhile; M.Phil by research can be obtained as per rule and regulations.

## **VISION**

To produce Environmentalists who share their skill in the establishment of Environmental Management system in all Industries, Agricultural Land, Irrigation and Drainage infrastructures, Communication network systems and Rural-Urban Utilities to enter in the development of 21<sup>st</sup> Century goal of making national Economy as per World Trade Organization (WTO) requirements.

## **OBJECTIVES**

To produce undergraduate/post Graduate/Masters level students skillful by achieving the following goals to become useful for re-construction of National Environmental Economy.

1. For making Water potable, learning methodologies of Water Treatment Plant, water-softening techniques Osmosis techniques shall be procured.
2. For making safe Disposal of wastewater from various developments, learning methodologies of Wastewater treatment technologies; like Wastewater treatment Plant, evaporation Ponds, Oxidation Ponds and in addition the design of Pipe network systems shall be procured.
3. For removing the solid Waste Problem in cities, industries, town and rural areas, a very comprehensive learning methodologies can be extended; like understanding the Generation, Collection, transferring and disposal techniques of Municipal Solid Waste, Industrial Waste and Hospital Waste.
4. To make efforts to clean the Atmosphere, the learning methodologies; like understanding air pollutants and the design of Air pollution Control equipment shall be procured.
5. To make student capable to design the project in which he shall learn implementation of Environmental Management System under the Umbrella of ISO-14000, Environmental Impact assessment and Strategic Environmental assessment.

More details about the course and other activities of the Institute may be obtained from:

1. Prof. Dr. Khan Muhammad Brohi,

Director,  
Institute of Environmental Engineering & Management,  
Phone: Off. 022-2772250 Ext. 7300

2. Prof. Dr. Rasool Bux Mahar,  
Co-Director.  
Phone Off. 022-2772250 Ext: 7303

#### **7.10.4 Publication Section**

This Section publishes a quarterly journal titled “Mehran University Research Journal of Engineering & Technology”. This journal is being published since 1982 without any interruption and is registered with ISSN. It is recognized internationally and is being abstracted by many national and international agencies. Further information may be obtained from:

Prof. Dr. Abdul Qadeer Khan Rajput  
Chief Editor,  
Publication Section,  
Phone: 022-2772274-76

#### **7.10.5 Directorate of Continuing Education**

##### **Core Objectives**

Arrange short courses to keep Engineers updated with latest developments in their respective Engineering Fields, Management science and Information Technology.

Organize lectures/seminars/workshops by speakers within the University and out of the University for Engineers to enhance their skills with the objective to improve their further employment opportunities.

Offer structures programs in various disciplines for engineers who are unable to obtain formal admission in Masters Degree program but can acquire necessary credit hours by attending such evening/morning programs while in service.

Develop linkage with different academic & industrial organizations within and outside the country where new developments are taking place.

Further information may be obtained from:

Prof. Dr. Hafeez-ur-Rahman Memon,  
Director,  
Directorate of Continuing Engineering Education,  
Telephone No. 022-2772280  
Fax: 022-2771653  
E-mail: [hafeez.memon@faculty.muet.edu.pk](mailto:hafeez.memon@faculty.muet.edu.pk)

#### **7.10.6 Membership of the University with:**

1. Association of Commonwealth Universities (ACU) U.K- 1998-99.



2. UNESCO International Centre for Engineering Education (UICEE), Australia-2000.
3. Federation of the Universities of Islamic World (FUIW), Rabat, Morocco-1999.
4. Commonwealth Universities Study Abroad Consortium (CUSAC), U.K 2000-2001.
5. Community of Science (COS) USA-2001
6. Pakistan National Committee on Irrigation Drainage (PANCID), 2001
7. APQN – Asian Pacific Quality Network – 2007.

**7.10.7 The University has signed Memorandum of Understanding with the Following Foreign Universities/Institutes during the years 2004-2012.**

S.No.	Name of the Institute	Date of Agreement	Period
1.	University of Nottingham, U.K (Original)	28.4.2005	5 Years
	University of Nottingham, U.K (this revised agreement applies to the University of Nottingham's campuses in the United Kingdom, china & Malaysia)	30.9.2011	5 Years
2.	Montan Universitaet, Leoben, Republic of Austria	07.06.2005	5 Years
3.	University of Leeds, U.K.	28.6.2005	No time limit
4.	Colorado State University, Fort Collins, Colorado, USA	15.08.2005	5 Years
5.	Kyushu Institute of Technology, Japan	27.10.2005	5 Years
6.	University of Central Florida, USA	23.08.2006	2 Years
7.	Middle East Technical University Ankara, Turkey	13.09.2006	No time limit
8.	Pakistan Space & Atmosphere Research Commission (SUPARCO), Karachi, Pakistan	27.02.2007	No time limit
9.	University of Illinois, at Urbana, Champaign, USA	28.03.2007	3 Years
10.	University of Exeter, U.K	31.03.2007	2 Years
11.	Aalborg University Esbjerg, Denmark	09.06.2007	No time limit
12.	Benazir Bhutto Shaheed Youth Development Program, Works & Services Department, Government of Sindh, Pakistan	28.07.2008	31.12.2008
13.	University of Southampton, U.K	06.08.2008	5 Years
14.	Asian Institute of Technology (AIT), Bangkok, Thailand	15.08.2008	5 Years
15.	University of Bedfordshire, UK	20.11.2008	No time limit
16.	Benazir Bhutto Shaheed Youth Development Program, Irrigation & Power Department, Government of Sindh, Pakistan.	12.01.2009	No time limit
17.	University of Pittsburgh, Pennsylvania, USA	16.07.2009	2 Years
18.	Global University, Beirut, Lebanon	26.10.2009	3 Years
19.	Faculty of Engineering, University of Southern Denmark, Denmark	27.10.2009	5 Years
20	City University, London, UK (Original)	07.12.2009	One Year
	City University, London, UK (Original)	05.10.2011	One Year

21.	The United States Educational Foundation in Pakistan, Islamabad	11.12.2009	No time limit
22.	Charles Sturt University, Australia	18.06.2010	No time limit
23.	Isra University, Hyderabad, Sindh, Pakistan	16.08.2010	No time limit
24.	Alborg University, Center for Teleinfrastruktur (CTIF), Denmark	05.11.2010	5 Years
25.	Pakistan Council of Scientific & Industrial Research, Islamabad	28.01.2011	3 Years
26.	Brunel University, West London, UK.	31.03.2011	3 Years
27.	Technische Universitat Darmstadt, Germany	20.08.2011	5 years
28.	University of Malaya, Malaysia	20.09.2011	No time limit

## 8. MEHRAN UNIVERSITY COLLEGE OF ENGINEERING & TECHNOLOGY, KHAIRPURMIRS

### 8.1 Introduction

In order to promote engineering education in the interior region of the province and to reduce the supply-demand gape, the Government of Sindh vide its notification No. SO(C-IV)SGA&CD/4-29/09 dated 2<sup>nd</sup> April, 2009, established a constituent college of Mehran University of Engineering and Technology, named as Mehran University College of Engineering & Technology, Khairpur Mir's.

The main objectives of the establishment of the college are as under:

- To provide science and technology education to the people of interior Sindh at their door step.
- To upgrade the technical skills of the people of Sindh.
- To meet the national demand for qualified engineers required for national industrial development.
- To promote the rural talent, enabling it thereby to participate in mainstream of national growth.

The number of students admitted to the First Year classes in all four undergraduate disciplines is 240 out of which 80 candidates are admitted under the self financing scheme. Mehran University College of Engineering & Technology offers undergraduate program in four disciplines, viz. Civil Engineering, Mechanical Engineering, Electrical Engineering and Petroleum & Natural Gas Engineering. Being a constituent College of Mehran University of Engineering and Technology, the college adopts the same teaching system, courses of studies, rules and procedures for admission, examination system and student conduct and discipline as those are practiced by the University.

The college headed by the Principal is working under the administrative and academic control of Mehran University of Engineering and Technology, Jamshoro.

### 8.2 Officers of the College

- |    |                     |  |
|----|---------------------|--|
| 1. | Principal           | Prof. Dr. Mujeeb-u-ddin Memon<br>Tele. No. 0243-714005 |
| 2. | In-charge Chairman, | Dr. Kanya Lal  |

Civil Engineering Department:

3. In-charge Chairman, Mr. Nayyar Hussain Mirjat  
Electrical Engineering Department:

4. In-charge Chairman, Mr. Aqeel Ahmed Bhutto  
Mechanical Engineering Department:

5. In-charge Chairman, Mr. Imran Ali Memon  
Petroleum & Natural Gas Department:

### 8.3 Fields of study and teaching faculty:

Mehran University College of Engineering and Technology, Khairpur offers courses leading to Bachelors' degrees in the following disciplines. All the four Degrees are in Engineering and are titled Bachelor of Engineering..... (Name of field); e.g B.E Civil. The names of all the undergraduate disciplines are also given below:

1. Civil Engineering
2. Electrical Engineering
3. Mechanical Engineering
4. Petroleum & Natural Gas Engineering

Presently the following faculty is involved in the teaching of the above disciplines:

1. Professor: Prof. Dr. Mujeeb Sahrai  
Mechanical Engineering Department
2. Associate Professor: Dr. Kanya Lal  
Civil Engineering Department
3. Assistant Professors: Mr. Syed Naveed Raza Shah,  
Civil Engineering Department  
  
Mr. Nayyar Hussain Mirjat,  
Electrical Engineering Department
4. Lecturers: Mr. Ghulam Shabir Solangi,  
Civil Engineering Department  
  
Mr. Shahbaz Ali Shah,  
Civil Engineering Department  
  
Mr. Abdul Razzaque,  
Civil Engineering Department  
  
Mr. Aurangzeb Memon,  
Civil Engineering Department  
  
Mr. Raja Oadh,  
Civil Engineering Department

Ms. Rabia Soomro,  
Civil Engineering Department

Mr. Muhammad Rafique Naich,  
Electrical Engineering Department

Mr. Arsalan Ansari,  
Electrical Engineering Department

Mr. Ahsanullah Memon,  
Electrical Engineering Department

Mr. Sajid Kazi,  
Electrical Engineering Department

Mr. Taoqeer Ahmed Jumani,  
Electrical Engineering Department

Mr. Aqeel Ahmed Bhutto,  
Mechanical Engineering Department

Mr. Jahanzaib Soomro,  
Mechanical Engineering Department

Mr. Bilawal Ahmed Bhayo,  
Mechanical Engineering Department

Mr. Osama Qasimi,  
Mechanical Engineering Department

Mr. Aurangzeb Wadho,  
Mechanical Engineering Department

Mr. Ali Anwar Brohi,  
Mechanical Engineering Department

Mr. Imran Ali Memon,  
Petroleum & Natural Gas Engineering Department

Mr. Arshad Ahmed Lashari (on study leave)  
Petroleum & Natural Gas Engineering Department

Mr. Asadullah Memon,  
Petroleum & Natural Gas Engineering Department

Mr. Faisal Memon,  
Petroleum & Natural Gas Engineering Department

Mr. Bilal Shams Memon,  
Petroleum & Natural Gas Engineering Department

Mr. Kaleemullah Bhatti,

Mathematics

Mr. Nek Muhammad Katbar  
Mathematics

Mr. Sanaullah Memon,  
Mathematics

Mr. Ashfaq Hussain Soomro,  
English

Mr. Hadi Bux Chijjan,  
Islamic Studies

Mr. Jalil Ahmed Chandio,  
Pakistan Studies

#### **8.4 ICPC (Information and communication Processing Center)**

All the sections of the college are linked through ICPC Service which provides high-speed communications, e-mail, intercom and internet service.

#### **8.5 Transport Facilities**

The college provides transport service to the students, faculty and staff along the three routes, viz. Sukkur-Khairpur, Hingorja-Khairpur and within Khairpur City.

#### **8.6 Sports Facilities**

The college has established a sports section which arranges various indoor and outdoor sports occasion on its own as well as in liaison with the Directorate of Sports of the University.

### **9. RULES AND PROCEDURES FOR ADMISSION**

#### **9. Rules and Procedures for Admission**

##### **9.1 Admission**

- (i) Admissions to the First Year for all the degree courses are made according to the policies and rules, framed by the authorities of the University from time to time. The rules mentioned in this prospectus are subject to revision by the competent authority as and when deemed necessary and without notice. The number of seats is fixed as per Table 9.6.1. There are other categories of candidates who are also eligible for admission, which are described in detail in the subsequent sections.
- (ii) The candidates who have been allowed admission previously with any batch by this University shall not be considered for fresh admission. Their admission forms, if received by the University shall be rejected without any notice. However, if any admitted student desires to seek admission in any discipline under Self Financing Scheme, Bio-Medical Engineering Scheme and Special Scheme, he/she may apply for the same and submit an undertaking on the stamp

paper to the effect that he/she will not claim admission under Regular Scheme of the year. Similarly, the admitted student under Self Financing Scheme, Bio-medical Engineering Scheme and Special Scheme, if apply for admission under Regular Scheme, he/she may apply for the same for which he/she will be required to submit an undertaking on the stamp paper to the effect that if he/she is admitted in the desired discipline he/she will not claim the refund of the money whatsoever, he/she has paid with the previous batch.

- (iii) The candidates who apply for their admission on the basis of fake certificates/documents (detected before or after their admission) shall be prosecuted under criminal law and their admission shall be cancelled. Additionally, they may also be debarred for a period of three years for future admissions and all payments made to the University shall be forfeited in favour of the University.

## **9.2 Eligibility for Admission**

- (i) The candidates who have passed the Higher Secondary School Certificate (HSC/HSSC) Pre-Engineering Examination or equivalent with Physics, Chemistry and Mathematics in Annual Examination 2012 or earlier upto Annual Examination of 2010 and have secured at least 60% marks or B-Grade from any recognized Board of Intermediate and Secondary Education in Pakistan or from foreign countries, are eligible to apply for admission. In addition, the candidates who have passed Intermediate (General Science Group) in Annual Examination 2012 or earlier upto Annual Examination of 2010 and have secured at least 60% marks or B-Grade are also eligible for their admission only in Computer Systems Engineering, Software Engineering, Electronic Engineering and Telecommunication Engineering and they will not claim their admission in any other discipline. The candidates who have passed the above examinations or equivalent examinations before Annual Examination 2010 shall not be eligible for admission.
- (ii) Candidates who have passed three years diploma from a recognized Board of Technical Education in Pakistan in an approved discipline (Civil, Electrical, Mechanical, Electronics, Chemical, Glass & Ceramics, Petroleum and Architecture Technology) in Annual Examination 2012 or earlier upto Annual Examination 2010 and have secured at least 60% marks are also eligible to apply for admission under category 'B' in the same discipline only under the Regular scheme. The candidates who have passed three years Diploma before Annual Examination 2010 shall not be eligible for admission.
- (iii) Those students, who were admitted to any other institutes/universities before applying for admission in Mehran University and were rusticated, debarred or their admissions were cancelled, shall not be considered for admission in the University. Additionally, if the students withhold information regarding such a disciplinary action and they were granted admission; their admission would be cancelled immediately after ascertaining such facts. Those candidates who have been convicted involving moral turpitude shall also be refused admission in the University.

## **9.3 Application Form for Admission**

Call for admissions, is advertised in the prominent regional, national newspapers as well as on website [www.muett.edu.pk](http://www.muett.edu.pk) The candidates are required to obtain application forms from designated Banks in various cities and towns on payment of prescribed fees and are asked to deposit them with the same banks within the announced due date. These application forms are then sent to the Mehran University where they are scrutinized and the in-eligible applications are rejected. After this scrutiny, all the eligible candidates are sent admission slips for entry to the Pre-admission Test. The candidates are required to fill up the prescribed application form in their own hand writing carefully; specially, while writing the prioritized choices of the disciplines. Choices mentioned in the admission form can only be changed at the time of Interview before the Admission Committee. All the candidates appearing for interview before the Admission Committee must fill all the choices in the option form under Regular Scheme. If all priorities are not mentioned by the candidates in the Admission form he/she will not be considered for admission against left over seats. If any student after seeking admission in lower choice of discipline is satisfied with the same, he/she may submit an application within three days from the date of issuance of such list that he/she is satisfied with the discipline awarded to him/her, and his/her discipline may not be changed further. If such application is not received the Admission Committee may change them as per their choice and vacancies and this change shall be binding on them.

The discipline would be awarded strictly on merit and on the basis of available seats in urban/rural area of each district of Domicile/PRC against which they have applied keeping in view the prioritized choices of the candidate. Since the application form is a legal document any wrong information provided there-in, over-writing or tampering in any other way is illegal and may result in rejection of the form outright.

The candidates are required to submit the attested photo-stat copies of all the certificates and recent taken photographs as indicated in the application form.

#### **9.4 Pre-admission Test**

In accordance with the policies adopted by the Federal as well as Provincial Government of Sindh all the eligible candidates applying under any category are now required to appear in the Pre-admission Test organized by the University.

Candidates having secured less than 12% marks in the Pre-admission Test shall not be eligible for consideration of their names for the purpose of admission in this University.

The final merit list of the candidates for each district/category will be prepared by calculating the over all merit, based on the marks obtained in each of the following examinations, multiplying them with the respective weightage and adding the result to calculate the “Composite Percentage Number” (CPN) as described below:

<b>Percentage of Marks in:</b>	<b>Multiplying Weightage</b>
<b>A</b> Secondary School Certificate (Science group) (Matriculation):	0.10
<b>B</b> Higher Secondary School Certificate (Pre-Engg./ General Science group) or equivalent adjusted marks*:	0.40
<b>C</b> Pre-admission Test	0.50

For example, if a candidate has secured 70% marks in SSC, 65% marks in HSSC and 50% marks in pre-admission test; his/her CPN would be given by:

$$\text{CPN} = 70*0.1+65*0.4+50*0.5 = 7+26+25 = 58 \text{ (Percent)}$$

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\*Adjusted marks means marks secured in HSSC examination plus additional marks if any, as defined in clause 9.10, minus marks to be deducted as defined in clause 9.11.

**Note:** All nominees local/foreigners should submit the result of SAT, UET's, NUST or officially approved National/International Organization or other International level Test they have passed for their admission purpose or appear in the Pre-admission Test of this University and clear the same. In case they do not clear the test they will not be considered for admission at this University.

## 9.5 Interviews

After the receipt of the results of Pre-admission Test a comprehensive merit list is prepared for each district/category and a number of candidates is called for interview before the Admission Committee. The interviews are held at Mehran University, Jamshoro on the dates as announced in the newspapers and also on Website [www.muuet.edu.pk](http://www.muuet.edu.pk). This number of candidates called for interview is usually much higher than the seats available in a given district or category. The candidates are also required to bring their original certificates for verification particularly the following Five certificates.

- (i) Marks Sheet of SSC (Matriculation)
- (ii) Marks Sheet of HSSC Intermediate (Pre-Engg./General Science Group) (in case change of group from Pre-Medical to Pre-Engg. Marks sheet of Pre-medical Group).
- (iii) Domicile Certificate of candidate/guardian
- (iv) PRC on 'C' Form of candidate
- (v) National Identity Card/B-form (as applicable).

Those candidates appearing for interview before the Admission Committee are short of few original documents, they must submit their original documents within three days after their interview, failing which their names will be struck off from the merit list of the concerned district/category.

The names of those candidates, who failed to appear for the interview before the Admission Committee on the scheduled date and time and any intimation is received from them, be kept in pending till the preparation of Second list and if fails their names shall be deleted from the merit list of the concerned district/category and they shall not be considered for the admission.

## 9.6 Distribution of Seats

The distribution of seats for admissions are made strictly according to the rules framed for the purpose by the authorities of the University on population basis among the rural and urban areas for the Hyderabad, Mirpurkhas, Larkana and Sukkur Divisions. 21 seats have also been reserved for the candidates of Karachi Division. The admission in various districts/categories will be given on quota basis for the urban and rural areas. However,



the award of discipline shall be given on the basis of joint merit in the districts. The number of seats allocated to each district in various disciplines and for other categories is given in Table 9.6.1 below, while the number of seats for each district/division in Sindh province (urban/rural areas) are shown in Table 9.6.2. In Table 9.6.3, description is provided concerning various categories candidates seeking admission.

**Table-9.6.1**

Distribution of Seats discipline-wise for various Districts, Disciplines and Categories at Mehran University of Engineering and Technology, Jamshoro.

Category	Description																		TOTAL
		CE	EL	ME	ES	CS	TL	SW	CH	IN	MN	MT	PG	AR	CRP	TE	EE	BM	
A.1	Sukkur	1	1	1	2	2	2	2	2	1	2	2	2	1	2	2	1	1	27
	Ghotki	1	1	1	2	2	3	2	2	2	1	3	2	2	1	2	1	1	29
	Khairpur	2	2	2	3	3	4	4	3	3	3	2	3	3	3	3	1	1	45
	S. Benazirabad	1	1	1	3	2	3	3	2	2	2	2	2	2	2	2	1	1	32
	N.Feroze	1	2	1	3	2	3	3	2	2	2	2	2	1	1	3	1	1	32
A.2	Larkana	1	1	1	2	2	2	3	2	2	2	2	2	2	2	2	1	1	30
	Kamber/ Shahdadkot	1	1	1	2	2	2	2	2	1	1	2	2	2	2	2	1	1	27
	Shikarpur	1	1	1	2	2	3	2	1	1	1	2	1	2	2	2	1	1	26
	Jacobabad	1	1	1	2	2	2	2	2	2	1	1	2	2	2	2	1	1	27
	Kashmore	-	1	1	1	1	1	2	1	1	1	1	1	1	1	1	-	1	16
A.3	Hyderabad	7	7	8	6	8	7	7	2	4	4	3	3	4	5	5	3	1	84
	Matiari	2	3	2	2	2	2	2	1	2	2	1	1	2	1	2	1	1	29
	T. M. Khan	3	3	3	2	2	2	3	1	1	1	1	2	1	1	2	1	1	30
	T.Allahyar	2	2	3	1	2	3	2	1	1	1	2	1	1	2	1	1	1	27
	Dadu	5	6	7	4	5	5	6	3	3	3	3	2	2	3	4	2	1	64
	Jamshoro	3	3	3	3	3	3	2	1	1	1	1	2	2	2	2	1	1	34
	Thatta	6	6	6	4	5	5	5	3	3	3	3	3	3	3	4	2	1	65
	Badin	6	6	7	4	5	5	5	3	3	3	3	3	3	3	4	2	1	66
A.4	Mirpurkhas	5	6	6	3	4	4	4	2	2	2	2	2	2	3	3	2	1	53
	Umarkot	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	39
	Tharparkar	5	5	5	4	4	4	4	2	2	3	3	2	2	3	3	2	1	54
	Sanghar	7	8	8	6	6	7	7	3	4	4	3	4	4	4	5	3	1	84
A.5	Karachi	-	-	-	2	2	2	2	2	3	2	2	-	1	-	2	-	1	21
B	Dip. Holders	2	2	2	4	-	-	-	4	-	-	-	4	1	-	-	-	-	19
C	MUETE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40*
D.1	Balochistan	-	-	-	2	2	-	-	2	-	-	2	-	2	-	-	-	-	10
D.2	Foreigners	5	3	3	2	2	-	-	-	1	2	1	-	-	-	-	-	-	19
D.3	A.Kashmir	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	02
D.4	FATA	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	02
D.5	UET-Lahore	1	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	03
D.6	UET-Taxila	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01
D.7	NWFP- UET, Peshawar	1	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	03
D.8	Govt. of KPK	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	01
D.9	Govt. of Punjab	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	01
D.10	N.Area	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	02
D.11	GHQ	3	2	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	08
D.12	Federal C.Area	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	01
	Total	79	78	80	74	77	77	77	53	50	50	51	50	54	50	60	30	23	1053

\*Maximum 12 admissions in any discipline except Biomedical Engg. Shall be allowed but total admissions shall not exceed 40 seats.

### Explanation of Abbreviations

<b>CE</b>	Civil Engineering	<b>TL</b>	Telecommunication Engg.
<b>EL</b>	Electrical Engineering	<b>MT</b>	Metallurgy & Materials Engg.
<b>ME</b>	Mechanical Engineering	<b>PG</b>	Petroleum & Nat. Gas Engg.
<b>ES</b>	Electronic Engineering	<b>AR</b>	Architecture
<b>CS</b>	Computer Systems Engineering	<b>IN</b>	Industrial Engg. & Management
<b>EE</b>	Environmental Engineering	<b>CRP</b>	City & Regional Planning
		<b>MN</b>	Mining Engineering.
		<b>TE</b>	Textile Engineering.
		<b>BM</b>	Biomedical Engineering

**Table-9.6.2**

Distribution of Seats for various Districts (urban/Rural basis) in Sindh Province, Mehran University of Engineering and Technology, Jamshoro.

Category	Districts	Number of Seats		
		Urban Areas	Rural Areas	Total Seats
A.1	Sukkur	10	17	27
	Ghotki	03	26	29
	Khairpur	05	40	45
	Shaheed Benazirabad	05	27	32
	Naushehro Feroze	02	30	32
	<b>TOTAL</b>	<b>25</b>	<b>140</b>	<b>165</b>
A.2	Larkana	09	21	30
	Shahdadm Kot/Kambar	03	24	27
	Shikarpur	04	22	26
	Jacobabad	04	23	27
	Kashmore	02	14	16
	<b>TOTAL</b>	<b>22</b>	<b>104</b>	<b>126</b>
A.3	Hyderabad	70	14	84
	Matiali	02	27	29
	Tando Muhammad Khan	04	26	30
	Tando Allahyar	05	22	27
	Dadu	09	55	64
	Jamshoro	03	31	34
	Thatta	02	63	65
	Badin	06	60	66
	<b>TOTAL</b>	<b>101</b>	<b>298</b>	<b>399</b>
A.4	Mirpurkhas	11	42	53
	Umerkot	00	39	39
	Tharparkar	00	54	54
	Sanghar	13	71	84
	<b>TOTAL</b>	<b>24</b>	<b>206</b>	<b>230</b>
A.5	All Districts of Karachi	-	-	21
	<b>GRAND TOTAL</b>	<b>172</b>	<b>748</b>	<b>941</b>

**Table 9-6.3** Description of remaining categories of Candidates seeking Admission.

Category	Description	Seats
(B)	Candidates who have passed Diploma Examination in Civil, Mechanical, Electrical, from Government Technical College/Polytechnic Institute/Govt. Habib College of Technology and are domiciled in the districts of categories A.3 and A.4. The domicile for admission of diploma holders in Electronics, Petroleum, Chemical/Glass & Ceramics and Architecture Technology will be of categories A.1, A.2, A.3 and A.4. Diploma holders shall be considered for admission under this category only.	19
(C)	<p>Real sons/daughters/brothers/sisters of Mehran University employees (serving or retired, deceased, on lien or working on deputation with other Institutions) shall be considered for admission to first year class against the reserved seats on the following criteria:</p> <ol style="list-style-type: none"><li>i. First preference will be given to real sons/daughters of employees who are confirmed in the University service and have at least three years continuous university service at their credit.</li><li>ii. Second preference will be given to real sons/daughters of employees who are confirmed in the University service and have less than three years University service at their credit.</li><li>iii. Third preference will be given to real Sons/Daughters of employees who are not confirmed in the University service but have at least three years continuous University service at their credit.</li><li>iv. Fourth preference will be given to real Brothers/Sisters of employees who are confirmed in the University service and have at least three years continuous University service at their credit.</li><li>v. Fifth preference will be given to real Brothers/Sisters of employees who are confirmed in the University service and have less than three years University service at their credit.</li><li>vi. Sixth preference will be given to real Brothers/Sisters of employees who are not confirmed in the University service but have at least three years continuous University service at their credit.</li><li>vii. Seventh preference will be given to real Sons/Daughters of employees who are not confirmed in the University service and have less than three years University service at their credit.</li><li>viii. Eighth preference will be given to real Brothers/Sisters of employees who are not confirmed in the University service and have less than three years University service at their credit.</li></ol> <p>Note: The merit with regard to the category “C” will be determined as per policy of the University. A copy of the appointment order and confirmation order of the employee must be attached with the admission form.</p>	40

<b>D.1</b>	i. Candidates domiciled in Balochistan Province, nominated by the Education Department, Government of Balochistan. (02 in Electronics Engineering, 01 Chemical Engineering, 01 Metallurgy & Materials Engineering and 01 Architecture).	<b>05</b>
	ii. Candidates domiciled in Balochistan Province, nominated by the Higher Education Commission, Islamabad. (02 in Computer Systems Engineering, 01 Chemical Engineering, 01 Metallurgy & Materials Engineering and 01 Architecture).	<b>05</b>
<b>D.2</b>	Foreign students (under Pakistan Technical Assistance Program) nominated by the Ministry of Finance and Economic Affairs (Economic Affairs Division) Government of Pakistan, Islamabad.	<b>19</b>
<b>D.3</b>	Candidates belonging to Azad Kashmir, nominated by the Ministry of Education, Government of Pakistan, Islamabad.	<b>02</b>
<b>D.4</b>	Candidates belonging to Federally Administered Tribal Area, nominated by the State and Frontier Region Division, Government of Pakistan, Islamabad.	<b>02</b>
<b>D.5</b>	Candidate domiciled in Punjab Province, nominated by the UET, Lahore through Education Department, Government of Punjab.	<b>03</b>
<b>D.6</b>	Candidate domiciled in Punjab Province, nominated by the UET, Taxila through the Education Department, Government of Punjab.	<b>01</b>
<b>D.7</b>	Candidate domiciled in Khyber Pakhtoon Khawah Province, nominated by NWFP UET, Peshawar through the Education Department, Government of Khyber Pakhtoon Khawah .	<b>03</b>
<b>D.8</b>	Candidate domiciled in Khyber Pakhtoon Khawah Province, nominated by the Education Department, Government of Khyber Pakhtoon Khawah.	<b>01</b>
<b>D.9</b>	Candidate domiciled in Punjab Province, nominated by the Education Department, Government of Punjab.	<b>01</b>
<b>D.10</b>	Candidates belonging to Northern Areas nominated by the Ministry of Education, Government of Pakistan, Islamabad.	<b>02</b>
<b>D.11</b>	Candidates nominated by the General Head Quarters, Rawalpindi.	<b>08</b>
<b>D.12</b>	Candidate belonging to Federal Capital Area nominated by Ministry of Education, Government of Pakistan, Islamabad.	<b>01</b>
	<b>Total seats including districts quota</b>	<b>1053</b>

**Distribution of Seats for various Districts and Disciplines at Mehran University  
College of Engineering and Technology, Khairpurmirs.**

Category	Description	Number of Seats				Total
		Discipline				
		CE	EL	ME	PG	
<b><u>A-1</u></b>	Sukkur	2	3	3	2	10
	Ghotki	3	3	3	2	11
	Khairpur	5	4	4	4	17
	S.Benazirabad	3	3	3	3	12
	Naushahro Feroze	3	3	3	3	12
<b><u>A-2</u></b>	Larkana	3	3	3	2	11
	Kambar/Shahdadkot	2	3	3	2	10
	Shikarpur	2	2	2	3	09
	Jacobabad	2	3	3	2	10
	Kashmore	2	2	1	1	06
<b><u>A-3</u></b>	Hyderabad	2	2	2	1	07
	Matiari	0	0	1	1	02
	T.M. Khan	0	1	0	1	02
	T. Allahyar	1	1	0	0	02
	Dadu	1	1	1	2	05
	Jamshoro	1	1	0	1	03
	Thatta	1	1	1	2	05
	Badin	1	1	1	2	05
<b><u>A-4</u></b>	Mirpurkhas	1	1	1	1	04
	Umerkot	1	0	1	1	03
	Tharparkar	1	1	1	1	04
	Sanghar	2	1	2	2	07
<b><u>A-5</u></b>	Karachi	1	0	1	1	03
<b><u>B</u></b>	MUCETE	1	1	1	1	04
	Total:	41	41	41	41	164

**Explanation of Abbreviations**

<b>CE</b>	Civil Engineering	<b>ME</b>	Mechanical Engineering
<b>EL</b>	Electrical Engineering	<b>PG</b>	Petroleum & Natural Gas Engg.

Distribution of Seats for urban and rural areas of the districts in Sindh Province, Mehran University College of Engineering & Technology, Khairpurmirs (Category-A)

Category	Districts	Number of Seats		
		Urban Areas	Rural Areas	Total Seats
A.1	Sukkur	4	6	10
	Ghotki	1	10	11
	Khairpur	2	15	17
	S. Benazirabad	2	10	12
	Naushehro Feroze	1	11	12
	<b>TOTAL</b>	<b>10</b>	<b>52</b>	<b>62</b>
A.2	Larkana	4	7	11
	Shahdadkot/Kamber	1	9	10
	Shikarpur	1	8	9
	Jacobabad	2	8	10
	Kashmore	1	5	6
	<b>TOTAL</b>	<b>9</b>	<b>37</b>	<b>46</b>
A.3	Hyderabad	6	1	7
	Matiari	0	2	2
	Tando Muhammad Khan	0	2	2
	Tando Allahyar	0	2	2
	Dadu	1	4	5
	Jamshoro	0	3	3
	Thatta	0	5	5
	Badin	0	5	5
	<b>TOTAL</b>	<b>7</b>	<b>24</b>	<b>31</b>
A.4	Mirpurkhas	1	3	4
	Umerkot	0	3	3
	Tharparkar	0	4	4
	Sanghar	1	6	7
	<b>TOTAL</b>	<b>2</b>	<b>16</b>	<b>18</b>
A.5	All Districts of Karachi	-	-	<b>3</b>
B	Real Sons/Daughters/Brothers/Sisters of Employees of MUCET, Khairpurmirs	-	-	<b>4</b>
	<b>GRAND TOTAL</b>	<b>28</b>	<b>129</b>	<b>164</b>

## 9.7 Designation of Urban Areas of Sindh Province

The Urban areas designated in each district are given below.

1 <u>Sukkur District</u> a) Sukkur Municipality b) Rohri Municipality	12 <u>Tando Allahyar District</u> a) Tando Allahyar Municipality
2 <u>Ghotki District</u> a) Ghotki Municipality b) Mirpurmathelo Municipality	13 <u>Tando Muhammad Khan District</u> a) Tando M. Khan Municipality
3 <u>Khairpur District</u> a) Khairpur Municipality b) Gambat Municipality c) Pirjogoth Municipality	14 <u>Matitari District</u> a) Hala Municipality
4 <u>Shaheed Benazir Abad District</u> a) Nawabshah Municipality	15 <u>Dadu District</u> a) Dadu Municipality b) Mehar Municipality c) K.N. Shah Municipality
5 <u>Naushehro Feroze District</u> a) Moro Municipality	16 <u>Jamshoro District</u> a) Kotri Municipality
6 <u>Larkana District</u> a) Larkana Municipality b) Ratodero Municipality c) Naudero Municipality	17 <u>Thatta District</u> a) Thatta Municipality
7 <u>Kamber/Shahdadt District</u> a) Shahdadt Municipality b) Kambar Municipality	18 <u>Badin District</u> a) Badin Municipality b) Matli Municipality
8 <u>Jacobabad District</u> a) Jacobabad Municipality	19 <u>Mirpur Khas District</u> a) Mirpurkhas Municipality
9 <u>Kashmore District</u> a) Kandhkot Municipality	20 <u>Thar District</u> No urban areas
10 <u>Shikarpur District</u> a) Shikarpur Municipality	21 <u>Umerkot District</u> No urban areas
11 <u>Hyderabad District</u> a) Hyderabad Municipality b) Tandojam Municipality	22 <u>Sanghar District</u> a) Sanghar Municipality b) Shahdadpur Municipality c) Tando Adam Municipality d) Sinjhor Municipality

## 9.8 Rectification of mistakes

The admission lists announced by the University are provisional and if any mistake is detected shall be rectified.



### **9.9 Admission of candidates who fail to deposit the admission fees within due date.**

If any candidate fails to deposit admission fees within due date and his/her seat is allotted to an other candidate in merit and at later stage if he/she reports for admission he/she may be considered for admission against the left over seats of his/her District/category as per his/her options before the closing date of admission.

### **9.10 Additional Marks**

The candidates who have a certificate of Hafiz-e-Quran on printed form from a registered Maderasah and clear the test of Hifz taken in the University, are also considered to have additional 20 marks to be added to the marks of HSSC.

### **9.11 Deduction of Marks due to gap in Education**

In case of a gap or repetition of HSSC/Diploma Examinations, the merit will be determined as described below.

One percent of the aggregate marks will be deducted for each gap of one academic year after Matriculation examination from the total marks of the HSSC/Diploma examination or equivalent, for the purpose of determination of merit in each District/Category. This deduction is applicable whether the HSSC/Diploma examination had been repeated or the gap had occurred owing to any other reason.

### **9.12 Procedure for filling up Seats**

Following shall be the procedure for admission based on the merit list prepared as stated in Clause 9.4

- (a) In each District the rural and urban area seats are filled according to their quota given above.
- (b) Any saving from the urban area seats of any district will be given to the rural area of the same district and vice-versa.

### **9.13 Selection Procedure against various categories**

All the candidates who have applied for admission against the seats reserved under categories A and C will be considered first for admission against the seats reserved for their respective districts under category-A. If a candidate who is selected against the district quota but is not getting the discipline of his/her choice, his/her seat and discipline of that district may be transferred to the category applied for and he/she will be given priority on merit basis in that category.

### **9.14 Cancellation of Admission**

The admission of a student admitted before the start of the classes, who remains absent continuously for three weeks from the date of start of classes of First Term of First Year, without obtaining permission from Dean Faculty concerned through the

Chairman/Director of concerned Department/Institute shall stand cancelled automatically without issuing any notice thereof.

### **9.15 Closing of Admissions**

The admissions for the session will be made up to the end of FOURTH week from the date of start of Classes. After this period no new admissions will be made. However, any change of discipline on merit will be made up to 07 days after the closing date of admission. The seats fallen vacant will not be filled-up.

### **9.16 Transfer on Reciprocal Basis**

There is a provision for transfer of students admitted in Mehran University with some other institutions of Pakistan as described below:

Three candidates, two in Chemical Engineering and one in Civil Engineering, having the domicile of Categories A.1 to A.4 will be nominated for admission to the University of Engineering and Technology, Lahore, on reciprocal basis. The candidates desiring to be considered for this nomination should give their intent in writing in the admission form as well as in the option form. The Mehran University authorities will make the final selection for this purpose.

One candidate in Civil Engineering having the domicile of categories A.1 to A.4 will be nominated for admission to the University of Engineering & Technology, Taxila on reciprocal basis.

Similarly, the UET Lahore, is authorized to nominate Three candidates and UET Taxila is authorized to nominate one candidate for admission in Mehran University in the same branches as mentioned above.

Three candidates, one in Civil Engineering, one in Mechanical Engineering and one in Architecture having the domicile of categories A.1 to A.4 will be nominated for admission in NWFP University of Engineering & Technology, Peshawar on reciprocal basis. They will be required to pay Rs. 38000/- as educational expenses in addition to admission and other normal user charges at the time of admission to NWFP University of Engineering and Technology, Peshawar. Similarly the nominees of NWFP University of Engineering and Technology, Peshawar on reciprocal basis will be required to pay Rs. 38000/- as educational expenses in addition to admission and other normal user charges at the time of admission to Mehran University of Engineering and Technology, Jamshoro. The candidates desiring to be considered for this nomination should give their intent in writing in the admission form as well as in option form. The final selection for this purpose will be made by the Mehran University authorities.

### **9.17 NOC and Study Leave Order for Candidates Already in Service**

The Candidates who are already in service at the time of submission of Admission form should attach **NO OBJECTION CERTIFICATE** from their employers for their admission. After selection to the First Year Class, they will be required to submit study leave order and relieving order from their employers for study purpose at the University because the Bachelor's degree program is a regular full time and day program and no student admitted in this University is allowed to engage himself/herself in any employment during his/her studies.

### **9.18 Admission in any Other Institute**

Being a full-time program of studies, no student of this University shall be allowed to enroll in any other full time or part time courses of studies in any other educational institution without prior permission of the authorities of the University. Violation of the above may lead to the cancellation of his/her admission.

### **9.19 Identity Card**

The students, after getting admission at the University, will be issued University Identity Cards by the Chairman of the concerned department. It is necessary for the students to keep their valid identity cards with them while attending the classes, traveling in the point buses or staying on the campus.

### **9.20 Change of Discipline/Technology**

No student shall be allowed to change his/her discipline/technology after the specified period as mentioned in clause 9.15.

### **9.21 Re-admission Policy**

Those students who are eligible for any term of any year and remained absent from their classes and examinations for any reason, will be considered for re-admission in the appropriate term where they left their studies, with the appropriate batch subject to application of other relevant rules, by the Re-admission Committee, provided their absence is not of more than two calendar years. However, their attendance to determine their eligibility to appear in the term Examination will be considered from the date of issue of re-admission letter. Such admissions may be made within four weeks from the date of start of the classes of particular session. The application for re-admission shall be submitted through the chairman/director of the concerned department/institution to the Dean of the faculty concerned giving the cogent reasons.

### **9.22 Enrolment Card**

Each student is required to enroll himself/herself in the University after the finalization of the discipline in the First Term of First Year and obtain Enrolment Card accordingly. In case of failure, he/she will not be allowed to appear in the examination of the First Term of the First Year.

### **9.23 Fees**

#### **(i) Fees payable at the time of admission**

a)	Admission fee (per year)	4200.00
b)	Tuition fee (per year)	7200.00
c)	University caution money deposit (refundable)	2000.00
d)	Subject society/PERN fee (once)	400.00
e)	Games fee (per year)	500.00
f)	Developmental charges (per year)	1000.00
g)	Enrolment fee (Once)	500.00
h)	Marks verification fee (once)	500.00

i)	Transport charges (per year)	3000.00
<b>Total:</b>		<b><u>Rs. 19300.00</u></b>
(ii)	<u>Biomedical Engineering</u>	
a)	Tuition fee (per year)	19000.00
b)	Enrolment fee (once)	500.00
c)	Marks verification fee (once)	500.00
d)	Transport charges (per year)	<u>3000.00</u>
<b>Total:</b>		<b><u>Rs. 23000.00</u></b>
iii)	<u>Term Examination fees</u>	Rs. 1000.00
iv)	<u>Hostel fees</u>	
a)	Admission fee (once)	500.00
b)	Room deposit (refundable)	1000.00
c)	Identity card fee (per year)	50.00
d)	Room charges (per annum)	2400.00
e)	Medical charges (per annum)	100.00
f)	Sports charges (per annum)	100.00
g)	Form fee	100.00
h)	Utility charges (per annum)	400.00
i)	Transport charges (per year)	<b>1500.00</b>
<b>Total:</b>		<b><u>Rs. 6150.00</u></b>

Note: The foreign students will be charged Rs.18,000.00 per year as room charges. The other fees will be the same as given above.

#### **9.24 Admission of candidates domiciled in Sindh Province under Self Financing Scheme at Mehran University of Engineering & Technology, Jamshoro.**

Admissions under this scheme have been allowed in the University since 1990-91 under relevant provisions of the Mehran University of Engineering and Technology Act, 1977. The admissions will be made on the basis of District quota as per Table-IV. After the announcement of Third List the saving seats will be filled up on overall open merit basis of the Province of Sindh. Following rules have been framed for admissions under the self-financing scheme. These rules are subject to revision by the competent authorities of the University at any time and without prior notice.

##### **9.24.1 Eligibility**

The eligible candidates should have:

- i. secured at least 60% marks or B-Grade in the HSSC (Pre-Engineering) examination for all disciplines and Intermediate (General Science Group for only four disciplines viz. Computer Systems Engineering, Software Engineering, Electronics Engineering and Telecommunication Engineering) or equivalent as recognized by the University and further explained in Section 9.2 under Regular scheme,

- ii. appeared in Pre-admission Test and obtained at least 12% marks,
- iii. produced Domicile and PRC (Form-C) of Sindh Province.

#### **9.24.2 Pre-admission Test**

As prescribed in Section 9.4 under Regular Scheme.

#### **9.24.3 Interviews**

As prescribed in Section 9.5 under Regular Scheme.

#### **9.24.4 Available Seats**

Seats in the following disciplines are reserved on district basis under this scheme for eligible candidates subject to the condition that the number of seats under this scheme in any following discipline may not exceed 50 in Category-I except Environmental Engineering for which only 15 seats are reserved, whereas in Category-II 40 seats in each discipline are reserved.

##### **Category-I**

1. Civil Engineering
2. Electrical Engineering
3. Mechanical Engineering
4. Electronics Engineering
5. Telecommunication Engineering
6. Petroleum & Natural Gas Engineering
7. Environmental Engineering
8. Chemical Engineering

##### **Category-II**

1. Computer Systems Engineering
2. Software Engineering
3. Industrial Engineering & Management
4. Textile Engineering

#### **9.24.5 University fees**

Following fees are payable to the University by the candidates applying for admission under self-financing scheme:

##### **Category-I**

Admission fee of Rs.600,000/- (Rupees six hundred thousand only) in the form of Demand Draft prepared by any branch of Habib Bank Limited, in favour of 'Director Finance, Mehran University of Engineering & Technology, Jamshoro'. The draft in original be submitted alongwith the application form.

##### **Category-II**

Admission fee of Rs.5,00,000/- (Rupees five hundred thousand only) in the form of Demand Draft prepared by any branch of Habib Bank Limited, in favour of 'Director Finance, Mehran University of Engineering & Technology, Jamshoro'. The draft in original be submitted alongwith the application form.

Other fees as payable under all categories of the Regular Scheme shall also be payable after the admission has been granted to the candidate.

**Table 9.24 (a) Distribution of Seats under Self Financing Scheme at Mehran University of Engineering and Technology, Jamshoro.**

District	No. of seats allocated to each district under Self Financing Scheme	CE	EL	ME	ES	TL	PG	EE	CS	SW	CH	TE	IN
Hyderabad	47	4	4	4	5	5	4	1	4	4	4	4	4
Jamshoro	19	2	2	2	2	2	2	1	1	1	2	1	1
Matiari	16	2	2	2	1	1	1	1	1	1	2	1	1
T.M. Khan	17	2	2	1	2	2	1	1	1	1	2	1	1
T.Allahyar	15	2	1	1	1	2	2	0	1	1	1	2	1
Thatta	36	4	4	4	4	3	3	1	2	2	4	3	2
Badin	37	4	4	4	4	4	4	1	2	2	3	3	2
Dadu	36	4	4	4	3	3	4	1	2	2	4	2	3
Umerkot	22	2	3	2	3	2	3	1	1	1	2	1	1
Mirpurkhas	30	3	2	3	2	2	3	1	3	3	3	2	3
Tharparkar	30	2	3	2	3	3	2	1	3	3	3	2	3
Sanghar	47	4	4	4	4	5	4	1	4	4	5	4	4
Sukkur	15	1	1	1	2	1	1	0	2	2	1	1	2
Larkana	17	1	2	2	1	2	2	1	1	1	2	1	1
S.B. Abad	18	2	2	2	2	2	1	1	1	1	2	1	1
N. Feroze	18	2	2	2	2	2	2	1	1	1	1	1	1
Kambar/ Shahdadkot	15	2	1	1	1	1	2	0	2	1	1	2	1
Ghotki	16	1	1	2	1	1	2	0	1	2	2	1	2
Khairpur	25	2	3	3	2	2	2	1	2	2	2	2	2
Jacobabad	15	1	1	2	1	1	2	0	2	1	1	2	1
Kashmore	9	1	1	0	1	1	1	0	0	1	1	1	1
Shikarpur	14	1	1	1	2	2	1	0	2	1	1	1	1
Karachi	11	1	0	1	1	1	1	0	1	2	1	1	1
Total	525	50	50	50	50	50	50	15	40	40	50	40	40

**Table 9.24 (b) Distribution of Seats for various Districts under Self Financing Scheme at Mehran University College of Engineering & Technology, Khairpurmirs.**

Category	Description	Number of Seats				
		Discipline				Total seats
		CE	EL	ME	PG	
<b><u>A-1</u></b>	Sukkur	2	1	1	1	5
	Ghotki	2	1	1	1	5
	Khairpur	2	2	2	3	9
	S.Benazirabad	1	1	2	2	6
	Naushahro Feroze	1	1	2	2	6
<b><u>A-2</u></b>	Larkana	2	1	1	1	5
	Kambar/Shahdadkot	1	2	1	1	5
	Shikarpur	1	1	2	1	5
	Jacobabad	1	1	1	2	5
	Kashmore	1	1	1	0	3
<b><u>A-3</u></b>	Hyderabad	0	1	1	1	3
	Matiari	0	0	0	1	1
	T.M. Khan	0	1	0	0	1
	T. Allahyar	0	0	1	0	1
	Dadu	1	1	0	1	3
	Jamshoro	1	0	0	0	1
	Thatta	1	0	1	1	3
	Badin	1	1	1	0	3
<b><u>A-4</u></b>	Mirpurkhas	0	1	0	1	2
	Umerkot	1	0	0	0	1
	Tharparkar	0	1	1	0	2
	Sanghar	1	1	1	1	4
<b><u>A-5</u></b>	Karachi	0	1	0	0	1
<b>Total:</b>		<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>80</b>

**9.25 Admission of Foreign candidates under Self Financing Scheme at Mehran University of Engineering & Technology, Jamshoro.**

Seats in 12 disciplines as described in Section 9.24.4 (maximum 5 seats in each discipline) are reserved for foreign candidates under this scheme who are otherwise eligible for admission. The foreign candidates must apply for admission through their Embassies via the Higher Education Commission, Islamabad.

The foreigner students will be required to pay admission fee of US \$ 12000 (once only) along with the application form. They will also be charged the usual fees as payable by other students.

**9.26 Admission of Candidates from Azad Jammu & Kashmir under Self Financing Scheme at Mehran University of Engineering & Technology, Jamshoro.**



Ten seats in the following discipline are reserved for the candidates domiciled in Azad Jammu and Kashmir under this scheme. They may apply directly to the University in response to the advertisement. All the other conditions concerning eligibility and fees as described in sections 9.2 and 9.24.5 also apply:-

Civil Engineering	2 seats
Electrical Engineering	1 seat
Mechanical Engineering	1 seat
Telecommunication Engineering	1 seat
Computer System Engineering	1 seat
Software Engineering	1 seat
Environmental Engineering	1 seat
Architecture	1 seat
City & Regional Planning	<u>1 seat</u>
<b>Total:</b>	<b><u>10 seats</u></b>

### **9.27 Other Information**

- Admission fee is payable only once in the beginning.
- Candidates once admitted under this scheme shall not be allowed to change the discipline except the seats in the desired disciplines are available.
- The candidates shall not be refunded the admission fee once he/she has paid tuition and other fees and obtained receipt and Roll Number.
- The candidates applying under this scheme will also be considered for admission under regular scheme against their districts/categories quota and in case they are selected for admission under both the schemes they will be given option for admission under any one scheme. If a candidate opts for admission under Self Financing scheme shall be considered upto Eighth choice in the Regular Scheme. The admission fee paid under self financing scheme will be refunded to him/her.

## **10. SPECIAL SCHEME**

For this scheme one seat in each discipline as mentioned below has been reserved for each district for the candidates having the Domicile of Sindh Province. In Biomedical Engineering seven seats are reserved for foreign candidates and seven seats are reserved on all Pakistan basis. In case of saving of seats the same will be filled up on overall open merit basis of the Province of Sindh. (foreign candidates may also be considered for admission against this scheme).

### **Category-I**

1. Biomedical Engineering
1. Architecture

### **Category-II**

1. Metallurgy & Materials Engineering.
2. Mining Engineering
3. City & Regional Planning

The basic requirement for admission will be the same as approved for admission under Regular Scheme. All candidates applying under this scheme must have obtained at least 12% marks in the Pre-Admission Test conducted by the University. Further local candidates for Category-I will be required to pay Rs.3,50,000/- (once) and candidates for Category-II will be required to pay Rs. 250,000/- (once). Foreign candidates will be required to pay US \$ 6000 (once) for admission under Category-I and US \$ 5000 for admission under Category-II at the time of seeking admission under the scheme in addition to other normal fees etc., payable by the students under Regular Scheme.

Refund of Self Financing Scheme, Bio-medical Engineering Scheme and Special Scheme Admission fee will only be allowed through Special Cross Cheque mentioning the name of refundee with Bank Account, the name of bank and bank branch. Therefore in case of refund of the fee candidates are required to write an application and provide the name of the parent/guardian or self alongwith their bank account number with branch name to whom amount to be refunded.

#### **11. Migration/Transfer**

- Migration to and from any other University and transfer from constituent College shall not be allowed in the first and final years.
- Migration/Transfer is not allowed to the students admitted on reciprocal basis.
- Migration/Transfer is allowed only in the cases of extreme hardship for the students or if it is considered in the best interest of the University by the competent authority. The decision of the University is final and binding in this regard.
- The Students failing in previous Terms/Semesters shall not be eligible for admission on migration/transfer basis.
- The migration/transfer of the local students would be allowed on the payment of Rs.500,000/- to the Mehran University; while foreigner students would be required to pay Rs. 700,000/- as migration fee. The nominees will be required to submit the No Objection Certificate (NOC) of the nominating agency.
- Admission on migration basis will be made upto fourth week of the start of the classes of particular session.

#### **12. REGULATIONS FOR TERM SYSTEM**

Regulations regarding the courses of Studies under Term System and Examinations under External Examiners System for the degree of Bachelor of Engineering (B.E.), Bachelor of City & Regional Planning (B.CRP.) and Bachelor of Architecture (B.Arch.) of Mehran University of Engineering & Technology, as provided under Section 47 (1) (a) of the Act: 1977.

1. **Short Title:** - These Regulations may be called Mehran University of Engineering & Technology, Bachelor of Engineering (B.E.), Bachelor of City & Regional Planning (B.CRP.) and Bachelor of Architecture (B.Arch.), Degree Courses Regulations \*amended 31<sup>st</sup> May 2003, repealing such Regulations framed by the University authorities or otherwise (if any).
  2. These Regulations shall be subject to Mehran University of Engineering and Technology General Scheme of studies for Bachelor of Engineering, Architecture and Planning Degree Course Statutes 1992.
  3. **Commencement:** - These Regulations shall be deemed to have come into force with effect from 31<sup>st</sup> May 2003.
  4. **Definitions:** - In these Regulations, unless otherwise stated:-
    - (i) "University" means the Mehran University of Engineering & Technology.
    - (ii) "Academic Year" means the Academic Year of the University.
    - (iii) "Term" means a period of 22 weeks out of an academic year for teaching and evaluation and/or guidance of the students of the University.
    - (iv) "Term Examination" means Final Examination held at the end of the Term.
    - (v) "Vice Chancellor", "Pro Vice Chancellor" "Dean", "Director/Co-Director", "Chairman", "Teacher" and "Controller of Examinations" means respectively the Vice Chancellor, the Pro Vice Chancellor, the Dean of the concerned Faculty, the Director/Co-Director of the concerned Institute, the Chairman of the concerned Teaching Department, the Teacher and the Controller of Examinations of the University.
    - (vi) "Internal Examiner" means the teacher/person appointed by the competent authority, who has been teaching the subject to the regular class/section during the academic year for which the examination is being conducted.
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- \* Amended by the Academic Council vide Resolution No. 58.1 (g) dated 28<sup>th</sup> January, 2004 and approved by the Syndicate vide Resolution No. 91.21 dated 7<sup>th</sup> February, 2004.
- (vii) "External Examiner" means a person holding Master's Degree or Ph.D. or at least Senior Graduates of Public/Private organizations with minimum 15 years professional experience holding senior executive post in the relevant discipline, who is neither a Teacher in the University nor has taught the subject(s) to the class/section during the Academic Year for which the examination is being conducted and is appointed by the competent authority from Public and Private chartered Universities/Organizations from Sindh Region or otherwise from various provinces of Pakistan if expertise are not available in the field from Sindh Region.

5. **The courses of study:** -

The courses of studies for the degree of Bachelor of Engineering (B.E.), Bachelor of City & Regional Planning (B.CRP.) and Bachelor of Architecture (B.Arch.) shall be as given in the Regulations, which follow, provided that these Regulations shall be subject to change as approved by the Academic Council of the University from time to time.

#### **6. Duration of Terms & Years**

- a) First Year, Second Year, Third Year and Fourth Year for the degree of Bachelor of Engineering (B.E.), Bachelor of City & Regional Planning (B.CRP.) each shall be of ONE Year duration (Total 4 Years) and each year shall comprise Two Terms.
- b) First Year, Second Year, Third Year, Fourth Year and Fifth Year for the degree of Bachelor of Architecture (B.Arch.) each shall be of ONE Year duration (Total 5 years) and each year shall comprise Two Terms.
- c) The duration of each term shall be 22 weeks distributed as 16 weeks of actual teaching & 02 weeks for preparation leave for examinations and 04 weeks for conduct of examinations and compilation of results.
- d) There shall be a break of at least one week between two terms.

#### **7. Marks-**

Each Degree Program shall carry a number of approved courses and each course shall be assigned a number of marks. Total marks for each Term shall be 500-800, whereas total marks for all 8 terms of B.E./B.CRP shall be 5000-5500 and for all 10 terms of B.Arch. shall be 6500-7000.

#### **8. Departmental Committee:-**

Each Institute/Department concerned will have a Departmental Committee consisting of three senior most teachers of the Institute/Department including the Director/Co-Director/Chairman, which will assess the progress of the students during the term.

#### **9. Term Requirements:-**

The minimum requirement for each Term course shall be as follows:

- (i) Sessional Work consisting of class tests, assignment and laboratory work.
- (ii) 75% attendance (minimum) and
- (iii) Appearance in Term Examination.

#### **10. Distribution of marks:-**

The distribution of Marks for each Theory and Practical course in a Term will be as follows:

<b>(a-i)</b>	<b>THEORY</b>	<b>MARKS (100)</b>
(i)	Attendance	10
(ii)	Class tests (MCQ Types)	05
(iii)	Assignment	05
(iv)	Term Examination	80
	<b>Total:</b>	<b>100</b>

<b>(a-ii)</b>	<b>THEORY</b>	<b>MARKS (50)</b>
(i)	Attendance	05
(ii)	Class tests (MCQ Types)	03
(iii)	Assignment	02
(iv)	Term Examination	40
	<b>Total:</b>	<b>50</b>

<b>(b)</b>	<b>PRACTICAL</b>	<b>MARKS (50)</b>	<b>MARKS (100)</b>
(i)	Attendance	05	10
(ii)	Evaluation of Lab. Work	15	30
(iii)	Term Examination	30	60
	<b>Total:</b>	<b>50</b>	<b>100</b>

<b>(c)</b>	<b>PRACTICAL/ STUDIO WORK (For Architecture)</b>	<b>MARKS(150)</b>	<b>MARKS (200)</b>
(i)	Attendance	15	20
(ii)	Studio Work	45	60
(iii)	Term Examination	90	120
	<b>Total:</b>	<b>150</b>	<b>200</b>

**(d) MODULE OF BIFURCATION OF MARKS FOR PRACTICAL EXAMINATION.**

S.#.	Total Marks of Subject.	Sessional Marks		Term Examination	
		Attendance	Evaluation of Lab. Work/ Studio Work	Conduct of Practical/ *Objective Test/Design Presentation	Viva-Voce/ Jury
1.	50	05	15	15	15
2.	100	10	30	30	30
3.	150	15	45	45	45
4.	200	20	60	60	60

**(e) PROJECT/THESIS**

- (i) In the case of the course “Project/Thesis” in the 8<sup>th</sup> Term of Bachelor of Engineering “Research Project” in the 7<sup>th</sup> Term and “Design Project” in the 8<sup>th</sup> Term of Bachelor of City & Regional Planning, the distribution of Marks shall be as follows.

**Max. Marks    Max. Marks**  
**(200)            (400)**

(a)	Sessional Work	50	100
(b)	Thesis/Project Evaluation & Viva Voce Examination	150	300
	<b>Total:</b>	<b>200</b>	<b>400</b>

- (ii) In case of “Research & Development Project-I & II” in the 9<sup>th</sup> & 10<sup>th</sup> Terms of Architecture, the distribution of marks shall be as follows:

**Research & Development Project-I**                      **Max. Marks**  
**(250)**

(a)	Sessional Work	50 Marks
(b)	Project Evaluation & Viva-Voce Examination	200 Marks
	<b>Total:</b>	<b>250 Marks</b>

**Research & Development Project-II**                      **Max. Marks**  
**(500)**

(a)	Sessional Work	100 Marks
(b)	Project Evaluation & Viva-Voce Examination	400 Marks
	<b>Total:</b>	<b>500 Marks</b>

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\* Amended by the Academic Council vide Resolution No. 58.1 (g) dated 28<sup>th</sup> January, 2004 and approved by the Syndicate vide Resolution No. 91.21 dated 7<sup>th</sup> February, 2004.

**(f) BREAK-UP OF SESSIONAL WORK TO BE AWARDED BY THE SUPERVISOR.**

**(i) TABLE FOR BREAK-UP OF SESSIONAL MARKS OF PROJECT/THESIS.**

	<b>PROJECT/THESIS MARKS.</b>			
TOTAL PROJECT MARKS →	<b>200</b>	<b>250</b>	<b>400</b>	<b>500</b>
TOTAL SESSIONAL MARKS →	<b>50</b>	<b>50</b>	<b>100</b>	<b>100</b>
<u>Sessional Marks Break-up</u> <u>(to be awarded by the Supervisor)</u>				
(i) Attendance	20	20	40	50
(ii) Contribution in Project	15	15	30	25
(iii) Internal Viva/Jury	15	15	30	25
<b>Total:</b>	<b>50</b>	<b>50</b>	<b>100</b>	<b>100</b>

**(ii) TABLE FOR DISTRIBUTION OF ATTENDANCE MARKS.**

Total Project Marks →	<b>200</b>	<b>250</b>	<b>400</b>	<b>500</b>
Max. Attendance Marks →	<b>20</b>	<b>20</b>	<b>40</b>	<b>50</b>
95% ----- 100%	20	20	40	50
86% ----- 94%	18	18	36	45
81% ----- 85%	16	16	32	40
75% ----- 80%	14	14	28	35
Below 75%	00	00	00	00

## 11. ATTENDANCE REQUIREMENT

- (i) A student must have at least 75% average attendance, so as to be eligible to appear in the Term Examination.
- (ii) In genuine cases, maximum 10% condonation in attendance shall be the discretionary powers of the Pro Vice Chancellor on the basis of an application to be scrutinized by Director, Co-Director / Chairman concerned and routed through respective Dean of Faculty.
- (iii) The attendance of newly admitted students of First Term of First Year Theory/Practical be calculated from the last changed discipline to determine the eligibility of the students to appear in the First Term Examination.

## 12. DISTRIBUTION OF ATTENDANCE MARKS

The distribution of marks for attended lectures by the students shall be as under:

### A. FOR A THEORY HEAD OF 4C.H. i.e. 100 MARKS

S.NO.	NO. OF LECTURES ATTENDED			MARKS TO BE AWARDED
01	51	---	52	10
02	47	---	50	09
03	43	---	46	08
04	39	---	42	07
05	BELOW 39			00

### B. FOR A THEORY HEAD OF 2C.H. i.e. 50 MARKS

S.NO.	NO. OF LECTURES ATTENDED			MARKS TO BE AWARDED
01	25	---	26	05
02	22	---	24	04
03	19	---	21	03
04	BELOW 19			00

### C. FOR A PRACTICAL HEAD OF 4C.H. i.e. 100 MARKS

S.NO.	Percentage of Lectures attended			MARKS TO BE AWARDED
01	95%	---	100%	10
02	86%	---	94%	09
03	81%	---	85%	08
04	75%	---	80%	07
05	BELOW 75%			00

### D. FOR A PRACTICAL HEAD OF 2C.H. i.e. 50 MARKS

<b>S.NO.</b>	<b>Percentage of Lectures attended</b>	<b>MARKS TO BE AWARDED</b>
01	90% --- 100%	05
02	80% --- 89%	04
03	75% --- 79%	03
04	BELOW 75%	00

**APPLICABLE TO LATE ADMITTED STUDENTS OF FIRST TERM OF FIRST YEAR.**

**E. FOR A THEORY HEAD OF 4C.H. i.e. 100 MARKS**

<b>S.NO.</b>	<b>Percentage of Lectures attended</b>	<b>MARKS TO BE AWARDED</b>
01	95% -- 100%	10
02	86% -- 94%	09
03	81% -- 85%	08
04	75% -- 80%	07
05	BELOW 75%	00

**F. FOR A THEORY HEAD OF 2C.H. i.e. 50 MARKS**

<b>S.NO.</b>	<b>Percentage of Lectures attended</b>	<b>MARKS TO BE AWARDED</b>
01	90% -- 100%	05
02	80% -- 89%	04
03	75% -- 79%	03
04	BELOW 75%	00

**13. CONDUCT OF SESSIONAL WORK/TERM EXAMINATION**

The procedure for conducting the sessional work/term examination and declaration of results shall be as follows:

- (a) 10/5 marks of assignment for subjects carrying 100/50 marks shall be awarded by the teacher concerned after conducting 3/2 class tests (MCQ Types) and 2/1 best of 3/2 class tests shall be counted towards award of 10/5 marks. The entire record of evaluated class tests shall be submitted by the concerned subject teacher to Examinations Department at the time of submission of sessional marks.
- (b) At the end of each Term, the marks of attendance, sessional work and lab. work secured by a student in Theory and Practical of the concerned subject shall be announced by the concerned subject teacher by displaying on the Notice Board.
- (c) The teacher concerned at the end of each term shall finally prepare four copies of the sessional marks of each course (attendance, class tests and laboratory work) separately on the prescribed proforma and forward the same to the Director/Co-Director/Chairman of the concerned Institute/Department for countersignature, who after retaining one copy for his/her office record, shall forward the remaining



three copies to the Controller of Examinations before the commencement of the Term Examination.

- (d) The result of each subject of the Term Examination shall be prepared in TRIPLICATE by Internal/External Examiners separately which will be forwarded to the Controller of Examinations in the sealed envelopes.
- (e) The cumulative result (including all the marks of attendance, class tests, lab. Work and Term Examination) of each term of a year shall be announced by the Controller of Examinations.

#### **14. SETTING OF QUESTION PAPER/ASSESSMENT OF SCRIPTS AND CONDUCT OF PRACTICAL EXAMINATION**

The mode for setting of question papers (Theory/Practical) and assessment of scripts for Theory Examination as well as conduct of Practical Examination shall be as under:

##### **(a) SETTING OF QUESTION PAPER**

###### **THEORY**

- (i) The Internal and External Examiners of both Theory and Practical in Regular /Supplementary Examinations shall be appointed by the Vice-Chancellor on the proposal of the Departmental Committee and recommendations of the Board of Studies of the concerned Institute/Department through Dean of concerned Faculty who will recommend the Panel of Examiners to the Controller of Examinations.
- (ii) The Internal Examiner for the Theory paper will set the Question Paper in duplicate which shall be sent to the External Examiner, along with a copy of syllabus in Sealed Envelope by the Controller of Examinations, who shall set the final question paper \*within minimum limit of 25% and maximum limit of 50% moderation/change of the total number of questions. The Internal Examiner will set question paper four weeks before the commencement of Term Examination.
- (iii) In specific cases, if the question paper is not submitted by the External Examiner two days before the date of commencement of Term Examination, the question paper set by the Internal Examiner shall be deemed final subject to approval of the Vice-Chancellor/Dean of concerned Faculty.
- (iv) The choice of attempting the questions shall be limited to a maximum of 60% i.e. Five (05) out of Eight (08) questions to be solved by the students. The question paper shall comprise various sections in exceptional cases determinable as per nature of the course.

###### **PRACTICAL**

- (i) The Objective Type Question Paper of Practical Examination shall be set in duplicate first by Internal Examiner and thereafter the same shall be got

moderated by External Examiner concerned as per procedure already applicable for Theory Examination.

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\* Amended by the Academic Council vide Resolution No. 57.7 dated 13<sup>th</sup> December, 2003 and approved by the Syndicate vide Resolution No. 91.27 dated 7<sup>th</sup> February, 2004.

- (ii) The following applicable Guideline Parameters shall be included by the Examiners for setting of objective type Question Papers:

Fill in the Blanks, True or False, Multiple Choice Questions (MCQs), Definition of Technical Terms, Drawing Skill Oriented Questions and Interpretation of Diagrams.

- (iii) The duration for conduct of Objective Type Test shall be Minimum 30 Minutes and Maximum One hour and total number of questions to be set as per part (ii) above shall be 30, 40, 50, and 60 for question papers carrying 10, 20, 30 and 40 marks, respectively.

**(b) ASSESSMENT OF SCRIPTS**

- (i) The scripts of Theory Examination shall be sent to the concerned External Examiner first and thereafter the scripts shall be assessed by the respective Internal Examiner. Both the examiners will send the award lists (in triplicate) to the Controller of Examinations separately.
- (ii) The average of the marks of the Internal & External Examiners shall be awarded to the candidates. In case the variation in the award of marks of Internal & External Examiners exceeds 20% of the marks assigned to the Term Examination, the matter shall be referred to the Dean of the concerned Faculty for final decision.

**(c) CONDUCT OF PRACTICAL EXAMINATION**

- (i) The Objective Type Test, Practicals and Viva-Voce Examinations shall be conducted jointly by the Internal & External Examiners appointed by the Vice-Chancellor. The Signature sheets of Examinees for conduct of Objective Type Test and Viva-Voce/Jury shall be maintained separately and the same shall be submitted to the Examinations Department for office record by the Examiners. The award lists signed by the both Examiners shall be submitted in triplicate under sealed cover to the Controller of Examinations alongwith assessed scripts of Objective Type Tests and Practical Examination.
- (ii) The Internal Examiner as well as External Examiner shall both submit separate report under sealed confidential cover to the Controller of Examinations of the University regarding the standard of the examination taken by them.
- (iii) In case External Examiner No. 1 is not available on the Scheduled date(s) of the examination the External Examiner No. 2 shall be contacted and called for examination.

- (iv) The Director/Chairman of the Directorate/Department or his/her nominee having expertise with related subject shall act as an alternate External Examiner No.1 and 2 are not available on the scheduled dates(s). However, the same alternate arrangements be made in case the concerned subject Teacher/Internal Examiner is not available in exceptional case due to some serious problem.

**(d) SCANNING OF RESULTS**

- (i) A Committee comprising of the Dean of the concerned Faculty, the Chairman/Director, Co-Director of the concerned Department/Institute and the concerned Senior teacher of the subject, who if necessary, for reasons of checking the quality and consistency of assessment of scripts, would at random re-assess at least 15% of the scripts and in case gross discrepancy is detected, the Committee shall be empowered to take appropriate action with approval of the Vice-Chancellor.
- (ii) Prior to sending ledgers of the results of Regular/Supplementary Examination of B.E./B.CRP./B.Arch. to the Vice-Chancellor for his signature, the overall tabulated and checked ledgers shall be perused and scanned by the Dean of concerned Faculty and the Chairman/Director, Co-Director of concerned Department/Institute.

**15. APPEARANCE IN THE TERM EXAMINATION**

The Term Examination will be open to the student who full-fills the following conditions:

- a) During the Term immediately preceding the examination, he/she has been on the roll list of the concerned Institute/Department of the concerned Faculty.
- b) He/she has submitted his/her Examination form duly filled-in completely along with the prescribed fee to the Controller of Examinations within the due date announced by the University.
- c) He/she has produced the following certificates duly signed by the Director, Co-Director/Chairman of the Institute/Department concerned.
  - (i) Good character certificate.
  - (ii) Photo state copy of Enrolment Card.
  - (iii) Attendance certificate to the effect that the student has achieved minimum prescribed 75% attendance.
- d) He/she is not debarred from taking the examination.

**16. PASSING AN EXAMINATION**

- (i) A candidate having passed all the Heads of 1<sup>st</sup> and 2<sup>nd</sup> Term of 1<sup>st</sup> to Final Year B.E./B.CRP./B.ARCH. with a minimum 40% in Theory and 50% in Practical shall be declared "PASS" or otherwise. The pass percentage for Project/Thesis

and Research & Development Project in the Final Year shall be 50%. (A Theory or Practical would be treated as separate Heads).

- (ii) A candidate having passed all the Heads of Both Terms from 1<sup>st</sup> to Final Year B.E./B.CRP./B.ARCH. with minimum 50% aggregate marks shall be declared "PASS". If any student is not able to get 50% aggregate marks even after having passed all the Heads, he/she shall be promoted but must improve the Heads of his/her choice to secure at least 50% aggregate marks.
- (iii) A student failing in any or all Heads of a Term Examination shall be declared to have failed in the examination. He/she shall be allowed to re-appear in the failing Head(s) in the next examination, if otherwise eligible as per rules.

## **17. PROMOTION TO NEXT HIGHER TERM**

- (i) A student shall be promoted to the next higher term provided he/she has completed minimum attendance requirements and filled-up the examination form of regular examination and has also appeared in at least one of the Heads of the examination. (A Theory or Practical would be treated as separate Heads).
- (ii) A student shall be promoted to Second Year (Third Term) only if he/she has cleared at least 50% Heads (including minimum of 02 Theory papers of 1<sup>st</sup> Term of First Year) in First Term Regular Examination.  
Benefit of the fraction will be given to the student.
- (iii) A student shall be promoted to Third Year (5<sup>th</sup> Term) only if he/she has cleared at least 50% Heads (including a minimum of 5 Theory Papers) of First Year prior to start of classes of Fifth Term.  
Benefit of the fraction will be given to the student.
- (iv) A student will be promoted to Fourth Year (7<sup>th</sup> Term) only if he/she has cleared all Heads of First Year (First and Second Terms) and has also cleared 50% Heads (including minimum Five Theory Papers) of Second Year prior to start of classes of Seventh Term.  
Benefit of the fraction will be given to the student.
- (v) In case of Bachelor of Architecture, a student shall be promoted to 5<sup>th</sup> Year (9<sup>th</sup> Term) only if he/she has cleared all Heads of First Year and Second Year and has also cleared 50% Heads (including minimum 5 Theory Papers) of Third Year prior to start of classes of Ninth Term.  
Benefit of the fraction will be given to the student.

## **18. DIVISION**

- (i) The award of Division in the Degree to the candidates of Batch 2000-2001(01) and onwards shall be made on the basis of Four Years performance in B.E. and B.CRP. and Five Years in B.ARCH. with year-wise weightage as under:

<b>YEAR</b>	<b>B.E. &amp; B.CRP.</b>	<b>B.ARCH.</b>
First Year	10%	10%
Second Year	20%	15%

Third Year	30%	15%
Fourth Year/Final Year	40%	20%
Fifth Year/Final Year	---	40%

The weightage mentioned above will be based on the %age of marks secured by the student in each year.

- (ii) A candidate who fulfills all the requirement for the Degree of B.E./B.CRP./B.ARCH. and secures 60% or more marks in all the Regular/Supplementary Examinations as mentioned above shall be declared pass in FIRST DIVISION and if secures 50% or above marks shall be placed in SECOND DIVISION.
- (iii) In the University Pass Certificate/Transcript, a foot note shall be added that Division has been awarded on Year-wise weightage as per 18. (i) above in the ratio of marks obtained from First to Final Year Regular/Supplementary Examinations.
- (iv) (a) The students admitted directly in Second Year (01-Batch & onwards) at this University on the basis of B.Sc (Industrial Technology/B.Tech. (Pass) shall be awarded adjusted marks of the exempted subjects of B.Sc (Industrial Technology)/B.Tech. (Pass). The adjusted marks shall be determined by the following committee and entered in the Examination record alongwith the marks obtained in the additional subjects for calculation of the weightage percentage.
- |    |   |           |
|----|---|-----------|
| 1. | The Dean of the Faculty concerned   | Convenor  |
| 2. | The Chairman/Director,Co-Director,<br>of the concerned Department/Institute | Member    |
| 3. | The Controller of Examinations  | Member    |
| 4. | The Dy. Controller of Examinations (Conduct)                                | Secretary |
- (b) The above methodology shall also be applicable for the students admitted directly in Second/Third year at this University on migration from any other Institution recognized by Higher Education Commission.

**19. (a) AWARD OF FACULTY POSITION**

- (i) Faculty Position in Engineering shall be awarded to a candidate from amongst the 1<sup>st</sup> Position Holders of each discipline who secures the highest weighted %age marks as per criteria prescribed in clause 18 (i).
- (ii) Faculty Position in Architecture and City & Regional Planning shall be awarded to a candidate from amongst the 1<sup>st</sup> Position Holders of appropriate batches of Architecture and City & Regional Planning who receive the degree in the same year and secures the highest weighted %age marks as per criteria prescribed in 18 (i).

**(b) AWARD OF THREE MERIT POSITIONS**

- (i) Three Merit Positions shall be awarded in each discipline on the highest percentage of marks based on weightage as prescribed in 18 (i) in all Regular Examinations First to Final Year (1<sup>st</sup> attempt ). The candidates having declared pass in 1<sup>st</sup> attempt with admissible grace marks as per rules are also eligible for the award of said three Merit Positions (applicable from 01-Batch and onwards).
- (ii) The students who are directly admitted in Second/Third Year at this University on the basis of B.Sc (Industrial Technology)/B.Tech. (Pass)/Migration shall also be considered for award of merit positions if they have cleared all the exempted subjects in 1<sup>st</sup> attempt at their respective Institution, have appeared in the determined additional subjects and cleared the same at this University in First chance.

## **20. AWARD OF DEGREE**

A student shall be awarded degree of Bachelor of Engineering (B.E.) or Bachelor of City & Regional Planning (B.CRP.) or Bachelor of Architecture (B.Arch.) only after he/she has passed the examinations and cleared all the Heads of all the Terms within the maximum period of 07 (seven) Calendar years for B.E. and B.CRP. and 08 (eight) Calendar years for B.Arch.

## **21. AWARD OF GRACE MARKS**

- (i) The benefit of grace marks of up to 05 marks in each Term will be given to a candidate who has taken the examination and who, but for this benefit, would have failed in the examination. These marks may be distributed over the various Heads of passing and shall not be added physically.

However, the benefit of grace marks mentioned above shall be allowed optional and as such the concerned candidate(s) shall be allowed the chance ONCE to re-appear in the condoned subject(s) by declaring Fail in such subject(s). Accordingly, the concerned candidate shall have to submit such option in writing through the Director, Co-Director/Chairman of the concerned Institute/Department. The option once exercised shall be deemed as final. In such cases, the candidate(s) shall have to deposit the prescribed fee for permission along with his/her option in addition to examination fee as admissible under the rules. However, if the candidate(s) who is/are allowed such optional permission fails to pass the concerned subject(s) after re-appearing in the examination, he/she will retain his/her previous result.

- (ii) The benefit of grace marks of up to 05 marks, will be given to a candidate who, but for this benefit, would have been placed in lower Division in the examination. These marks shall not be added physically.

## **22. COMPREHENSIVE VIVA-VOCE/JURY EXAMINATION**

- (i) The comprehensive Viva-Voce of Term Examination of the Project(s)/Thesis work shall be held after the completion of the 8<sup>th</sup> Term of B.E. and 7<sup>th</sup> & 8<sup>th</sup>

Terms of B.CRP. The Director, Co-Director/Chairman of the Institute/Department, the concerned teacher of the Project together with the External Examiner shall constitute the Viva-Voce Committee.

- (ii) The comprehensive Viva-Voce/Jury of the Research and Development Project-I and II (thesis) for B.Arch. shall be held after the completion of 9<sup>th</sup> & 10<sup>th</sup> Terms respectively.
- (iii) The Chairman of the department, at least one Senior Teacher, the concerned teacher of the project together with at least one External Examiner shall constitute the Jury.
- (iv) a. Sessional marks out of 50 shall be given solely by the Supervisor concerned only, which should be decided on the student's degree of involvement and contribution in the project.  
b. Thesis Evaluation and Viva-Voce shall be out of 150 marks. The distribution shall be as under.
  - The Internal Examiner, the External Examiner and the Director, Co-Director/Chairman concerned will each award out of 50 marks.
  - Thesis marks will be sent to the office of the Controller of Examinations in separate sealed envelopes.
  - In case of Director, Co-Director/Chairman being Internal Examiner, the External Examiner will award out of 100 marks.
- (v) A student who has failed in the Viva-Voce/Jury shall be given the benefit of appearing again in the same examination only ONCE.

### **23. TIME FOR CHECKING SCRIPTS**

The time limit for checking the answer scripts shall be 20 Scripts per day plus one week; unless specified.

### **24. FINAL AWARD**

The final award once received by the office of the Controller of Examinations shall not be liable to a subsequent change, except with the permission of the Vice-Chancellor.

### **25. RETOTALLING OF MARKS**

Re-totalling of the marks shall be done on payment of prescribed fee per paper for a candidate who submits an application to the Controller of Examinations, through the Director, Co-Director/Chairman of the concerned Institute/Department within two weeks from the date of announcement of result.

### **26. MEDIUM OF INSTRUCTION**

Instructions in all courses and laboratories are carried out in English Language.

## **27. MODIFICATION OF REGULATIONS**

These regulations are subject to modification by the competent University authorities as may be felt appropriate from time to time.

### **13. STUDENTS CONDUCT AND DISCIPLINE REGULATIONS, 1978, AS AMENDED UPTO 06.07.2006.**

The Regulations regarding the conduct and discipline of students of Mehran University of Engineering and Technology, under section 47(1) of the Act, 1977, as amended on 17.9.1986 and further amended on 06.07.2006 are given below:

#### **13.1 Short Title**

These Regulations may be called the Mehran University of Engineering & Technology Students Conduct and Discipline Regulations, 1978 as amended upto 6.7.2006..

#### **13.2 Commencement and Applications**

These Regulations shall come into force with immediate effect, and shall apply to all the students of the University, Centre of Excellence and the Colleges/Institutes constituted/affiliated to the University.

#### **13.3 Definitions**

In these Regulations, unless otherwise expressly stated:

- (i) “University” means the Mehran University of Engineering and Technology at Jamshoro.
- (ii) “College” means the Mehran University College of Engineering and Technology, Khairpur Mirs
- (iii) “Campus” means all areas and building structures including Academic Block/teaching departments, hostels or halls of residence of students, Administration Block, sports grounds-gymnasium and any staff residential area, recreational areas for students and staff and any other such areas, buildings or facilities created within the specified boundary of the University and likewise areas of affiliated/constituted colleges/Institutes/Center of Excellence.
- (iv) “Syndicate” means the Syndicate of the University.
- (v) “Vice-Chancellor” means the Vice-Chancellor of the University.
- (vi) “Discipline Committee” means the Discipline Committee of the University constituted under the First Statutes appended to Mehran University Act, 1977, and/or constituted separately for the constituent or affiliated colleges/Institutes/Center of Excellence by the Governing Body or management of that college/Institute/Center of Excellence with the



approval of the Vice-Chancellor, Mehran University of Engineering & Technology.

- (vii) “Dean”, “Director of an Institute/Chairman of the Department”, “Teacher Incharge of the Class”, “Workshop Superintendent”, “Provost”, “Deputy Provost”, “Warden”, “Director Sports”, “Games Incharge”, “Officer Incharge of Students Affairs”, and “Principal”/”Director” of the Constituted/Affiliated College/Institute/Center of Excellence, respectively, means the Dean, Director of Teaching Institute/Chairman of a Teaching Department, Teacher Incharge of the class, Workshop Superintendent, Provost, Deputy Provost, Warden, Director Sports, Games Incharge, Director Students’ Affairs, Students Welfare Officer, Students Advisor appointed as such by the competent authority and mutatis-mutandis officers/teachers in the affiliated college/Institute/Center of excellence.

**13.4 Every student shall observe the following:**

- (a) He/She must be faithful in his/her religious duties and respect the convictions of other in matters of religion and customs.
- (b) He/She must be loyal to his/her country and refrain from doing any thing which might lower its honour and prestige.
- (c) He/She shall be truthful and honest in his/her dealings with all people.
- (d) He/She must respect the elders and be polite to all specially to the women, the children, the old people, the weak and the helpless.
- (e) He/She must respect his/her teachers and others in authority in the University/College.
- (f) He/She must keep his/her mind clean and be clean in speech, sports and habits.
- (g) He/She shall help his/her fellow beings specially those in distress.
- (h) He/She must devote himself/herself faithfully to his/her studies and obey and follow the rules, instructions, guide lines issued by the University authorities from time to time.
- (i) He/She must observe thrift and protect property.

**13.5 No student shall:**

- (a) Smoke in his/her class room, laboratory, workshop, library, examination hall or convocation hall and during any academic functions.
- (b) Consume alcoholic liquor or other intoxicating drugs within the University /College or during the instructional, sports or cultural tours or survey camps or enter any such place or attend any such tour or camp while under the influence of such intoxicants.

- (c) Organize or take part in any function within the University/College, organize any club or society of students without permission of the University authorities.
- (d) Indulge into activities against the Islamic and Pakistan Ideology or national solidarity.
- (e) Indulge into activities promoting, prompting or involving violence or hatred or contempt.
- (f) Affiliate himself/herself with any political party or group and organize or take part in holding political gatherings and invite any politician, expelled or rusticated or debarred students, and anti social elements in the University/College.
- (g) Use pressure tactics or political or personal influence in seeking academic concessions or financial benefits or in other matters concerning academic and administrative functions of the University authorities.
- (h) Copy or help others in copying in examination, or cause by any means any disturbance in examinations including harassment of any teacher or other staff member or staging of walkout/boycott by himself/herself or by forcing others to do so or appear in examination in place of a bonafide eligible candidate or manage an outsider for impersonation or take unauthorizedly the whole or part of answer book/script out of an examination premises or tear scripts or any part thereof or indulge in substitution of Answer Books or influence any employee to indulge in any malpractices.
- (i) Bring, keep or use any kind of weapon or fire arms within the University/College.
- (j) Use or occupy fully or partially any room or any building of the University/College un-authorizedly.
- (k) Organize or take part in procession or meeting within the University/College, prejudicial to the peaceful atmosphere of the University.
- (l) Stage, incite, or participate in or abet any walk-out, strike, or any other form of agitation against the University/College or its teachers or officers.
- (m) Collect any money or receive donations or pecuniary assistance for or on behalf of the University or any organization except with the written permission of the Vice-Chancellor or any other person authorized by him in this regard.
- (n) Bring, keep, or use mobile phone with built-in camera and digital dictionary within the Academic and Examination buildings of the University/College.

- (o) Snatch mobile phones, use mobile phone during examination/class/practical or in the Library.
- (p) Tease the girl/boy students, demonstrate indecent or immoral gestures/attitude towards girl/boy students on the University/College.
- (q) Abuse/violate IT policies framed or to be framed from time to time.

**13.6** The teachers and officers of the University/College or committees formed under them for the purpose and others concerned with the students in the University/College are responsible for the maintenance of discipline and order among the students, while under their charge, and for dealing with any disorderly behaviour promptly in the manner prescribed by these regulations.

**13.7** The Discipline Committee shall deal with serious cases of indiscipline requiring such actions as prescribed by Regulation 10.

**13.8** A teacher or an officer in whose presence or in relation to whom an act of indiscipline is committed or who obtains knowledge of such an act on report or otherwise, shall deal with the case himself/herself as he/she may be competent as provided under the Regulation 10 below, and in other case, he/she shall inform and recommend the case to the higher authorities/bodies for necessary action as prescribed.

- 13.9** (i) Any one or more of the penalties mentioned in Regulation 10 may be imposed on a student who is guilty of one or more of the following acts:
- (a) commits breach of any of the clauses specified in Regulations 4 or 5 above; or
  - (b) disobeys the lawful order of a teacher or other person in authority in the University; or
  - (c) habitually neglects his/her work or habitually absents himself/herself from the class without reasonable cause; or
  - (d) willfully damages University/College property or the property of a fellow student or any teacher or any employee of the University/College; or
  - (e) does not pay the fees, fines or other dues leviable under the University Regulations; or
  - (f) does not comply with the Regulations relating to the residence in the hostels or halls of residences.; or
  - (g) uses indecent language, wears immodest dress, makes indecent remarks or gestures or behaves in a disorderly manner; or
  - (h) commits any criminal, immoral or dishonourable act (whether committed within the University/College or otherwise) which brings bad name to the University/College.

- (i) Any one or more of the penalties mentioned in Regulation 10 may be imposed on a student who is guilty of one or more of the above acts/charges.
- (ii) The penalty or penalties imposed shall be appropriate and proportional to the nature and gravity of the above act or acts.

**13.10** The penalties which may be imposed and the authority or authorities competent to impose each kind of penalty are specified below:

<b>PENALTY</b>	<b>AN OFFICER OR AUTHORITY COMPETENT TO IMPOSE THE PENALTY</b>
(a) (i) Exclusion from class room/Laboratory/ Field work/workshop upto four classes from his/her own classes.	Class Teacher/ Workshop Instructor
(ii) Impose fine upto Rs. 500/-	-do-
(b) Exclusion from the games or the field for the day.	Games Incharge
(c) Exclusion from Instructional or sports tour or survey camp.	Teacher/Officer Incharge
(d) (i) Exclusion from the department/ Institute for a period not exceeding one week.	Chairman of the Teaching Department/ Director of the Teaching Institute.
(ii) Impose fine upto Rs. 1000/-	-do-
(e) Exclusion from the Department/Institute for a period not exceeding two weeks.	Dean of the concerned Faculty /Principal of the College on the recommendations of the concerned Departmental Committee
(f) Fine not exceeding Rs.500/-	Teacher Incharge, or Superintendent of Workshop
(g) Fine not exceeding Rs.5000/-	Dean of the Faculty Concerned/Principal of the College on the recommendation of the Concerned Departmental Committee.

(h)	(i)	Fine not exceeding Rs.10,000/-	Vice-chancellor on the Recommendations of the Dean concerned and concerned Departmental Committee.
	(ii)	Exclusion from the department/Institute for a period not exceeding 3 weeks	-do-
	(iii)	Fine upto Rs. 20,000/-	Vice-chancellor on the recommendations of the Discipline Committee.
(i)		With-holding of issue of character certificate	Chairman of the Teaching Department/ Director of the Teaching Institute.
(j)		Cancellation of examination or part there-of, or debarring from appearing in any examination or part there-of.	Vice-Chancellor on the recommendations of the Discipline Committee
(k)		Cancellation of remission of fee or University Scholarship.	Vice-Chancellor on the recommendations of the Dean of the Faculty concerned/Principal of the College.
(l)		Suspension or removal from position of authority in the University Sports.	Vice-Chancellor on the recommendations of the Executive Committee of the University Sports Board.
(m)		Suspension of admission from the University for a period specified or unspecified pending the final decision.	Dean/Principal of the concerned Faculty on the recommendations of the Departmental Committee.
(n)		Rustication/Expulsion from the University for a period not exceeding one year.	Vice-Chancellor on the recommendations of the Discipline Committee
(o)		Rustication/expulsion from the University for a period exceeding one year.	Syndicate on the recommendations of the Discipline Committee.
(p)		Cancellation of admission from the University.	Syndicate on the recommendations of the Discipline Committee.

- (q) With-holding issuance of any degree. Syndicate on the Recommendations of the Discipline Committee.

Provided that the superior authorities shall be equally competent to impose lighter penalties with the competence of inferior authorities as prescribed above.

**13.11** No student shall be rusticated or expelled from the University unless he/she has been allowed a reasonable chance of defending the accusation against him/her provided that if the competent authority is satisfied it may take such an action under emergency to avoid any grave consequences.

**13.12** (i) An appeal against imposition of the penalties shall lie with the Vice-Chancellor, provided that where the penalty has been imposed by the Vice-Chancellor, himself, an appeal shall lie with the Syndicate.

Provided that when a penalty has been imposed by the Syndicate, an application for review can be made to the Syndicate.

(ii) No appeal by a student under these Regulations shall be entertained unless it is presented within two weeks from the date on which the decision is communicated to him/her, provided that the Vice-Chancellor may for valid reasons condone delay in any individual case.

**13.13** The Vice-Chancellor or any teacher or officer duly authorized by the Vice-Chancellor/Principal/Director of the Constituted/ Affiliated Colleges/Institutes/Center of Excellence may direct a student to pay compensation for any loss or damage to property belonging to the University or to fellow student or to an employee of the University/College, caused by willful act or gross negligence of the student and if the student does not pay such compensation within a reasonable time, competent authority, as the case may be, may take suitable action against him/her for indiscipline and impose upon him/her any of the penalties prescribed by Regulation 10 above.