



NEDUET

ANNUAL REPORT 2016



www.neduet.edu.pk

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Executive Summary

This report presents the details of important activities carried out by NED University of Engineering & Technology during the period from 1st July 2015 to 30th June 2016. During the period under report, considerable attention was given to the faculty development. Fifteen (15) faculty members successfully completed their PhD degrees from NED University, while another fifteen (15) faculty members re-joined the University after the successful completion of their Ph.D degrees from abroad. Significant contributions were also made in the field of research and development (R&D), 185 papers were published by the faculty in the national and international peer reviewed journals besides another more than 100 papers were presented in the conferences and workshops. In order to build the leadership quality in the faculty, 12 senior faculty members have been assigned representation in government policy making committees and also awarded memberships on various councils.

One (01) new Bachelor's Programme, namely Bachelor of Science (BS) in English Linguistics has been introduced. The students' enrolment which was 10563 in the year 2014-15 was increased to 12444 in 2015-16. The University now offers the Bachelor's programmes in twenty-eight (28) disciplines of engineering, sciences and architecture, besides offering the Master's programmes in forty eight (48) different fields and the PhD programme in selected fields of Engineering, Architecture, Sciences and Technology. Forty (40) students have been registered in the PhD programme of the University. The students also underwent practical training under the Internship Programmes in more than 70 industries. Various scholarships and studentships worth Rs. 20.0 million (approx.) were awarded to the University students on need-cum-merit basis.

Adequate finances were allocated and utilized for the strengthening of the University infrastructure and other facilities during the period under report.

The quality management, control and assurance also remained a major point of focus during the year 2015-16. In addition to the routine functions, all the teaching as well as non-teaching departments were assigned the Yearly Objectives together-with Action Plans. Fourteen (14) training sessions were organized to ensure capacity building of the faculty and staff members as well as for the improvement in both quality of services and efficiency of University personnel. During the reporting period, the University QEC has been assigned a score of 87% with a placement in 'W' Category by the Quality Assurance Agency (QAA) of the HEC.

History of University

The NED University of Engineering & Technology was established in March 1977 under an act of the Provincial Assembly of Sindh after upgrading of the former NED Government Engineering College, which was set up in 1922. The NED University is thus one of the oldest institutions in Pakistan for teaching and producing Engineering graduates. Prior to this, the D. J. Sindh College used to run classes to train subordinates for the Sindh P.W.D., the Municipalities and Local Boards.

On August 29, 1921 College Principal C.S Shahani made a concerted effort to get Engineering Degree classes started to meet demands of Civil Engineers on the project for completion of the Sukkur Barrage. Application to this effect was made to the University of Bombay through the Commissioner of Sindh, who was ex-officio president of Sindh Collegiate Association (a registered society of subscribers for providing higher education in Sindh). The Bombay University however rejected the application on the grounds of insufficient finance and insisted on entirely separate buildings, laboratories for the engineering college as a separate institution. After collection of donations from the Puribai and Becharbai Trust, Vishandas Fatehchand Brothers and one huge donation (for that time) of Rs.150,000 from Mr. Nadirshaw Edulji Dinshaw, the new college buildings and laboratories were constructed on separate land. The new college was originally the Prince of Wales Engineering College but later renamed in memory of Nadirshaw Edulji Dinshaw. The NED College was provisionally granted affiliation on 23-05-1923 by the University of Bombay for the first and second year courses in Civil Engineering and 78 students were provisionally admitted into first year classes in 1922. Permanent affiliation followed in February 1927.

The first-full time Principal of NED Engineering College was Mr. G.N.Gokhale who joined on 1st July 1923. Prior to this, Rai Sahib Bhupatrai had acted as Honorary Principal. The first professor (and Vice Principal) was Mr. S.B. Jannarkar who, along with Mr. Gokhale, did all the spadework in organizing and equipping the various departments and ordering the equipment for the Power House, Boiler Room, Hydraulics Laboratory, Engine Room and Machine Shops.

The original NED Engineering College was housed in four blocks of buildings and two sheds. The main block was named as Seth Fatehchand Dewandas Khilnani Hall. The block housing the Power House, Electrical and Hydraulics Laboratories, and Workshops was named after Bai Puribai and Bacharbai. Further additions were made to this block to provide accommodation for the Machine Shop on the ground floor and a (Mechanical) Drawing Hall on the first floor. The fourth block, completed in 1945, contained a Classroom and Clerk's Office on the ground floor and another (Civil) Drawing Hall on the first floor.

Two sheds were also built, one to house the Carpentry and Smithy Shops, and the other, alongside the Electrical Laboratory and Engine Room, to train technicians. The total cost of the buildings was just over Rs.265,000 and the cost of equipment (including machinery, Electrical instruments; models, steam, gas and oil engines; surveying and leveling instruments), books and furniture was just under Rs.400,000. The college remained affiliated to the University of Bombay from its inception in 1922 to 1947, after which it was taken over by the Government of Sindh; renamed as NED Government Engineering College and affiliated to the University of Sindh. After establishment of the University of Karachi in 1951, the affiliation of the College was transferred to this University. In 1964 a comprehensive plan was prepared to shift the college from its location in the congested downtown area (where no expansion was possible) to a new site adjoining the University of Karachi. The project was carried out with the assistance of the World Bank which provided Rs.118 millions in two phases and the College was shifted to its new 40 hectare Main Campus in 1975.

On the 1st of March, 1977 the NED Government Engineering College became the NED University of Engineering and Technology. From an enrolment of 50 students in 1923, the student population, at both undergraduate and graduate levels, has now gone up to nearly 7000. The faculty of Bio-Medical Engineering is located at NED LEJ Campus for which the land and building of an estimated value Rs.350 million was donated by (Late) Latif Ebrahim Jamal, a well-known philanthropist.

The first Vice-Chancellor of the University was Mr. A. M. Akhoond who was succeeded in sequential order by Prof. Dr. A. T. Khan, Prof. Dr. Jameel Ahmed Khan, Prof. Dr. M. Munir Hasan, Prof. Dr. A. Q. Qazi and Engr. Abul Kalam. The present Vice-Chancellor is Prof. Dr. M. Afzal Haque.

Chapter – 1



ACADEMIC ACTIVITIES

Academic Activities

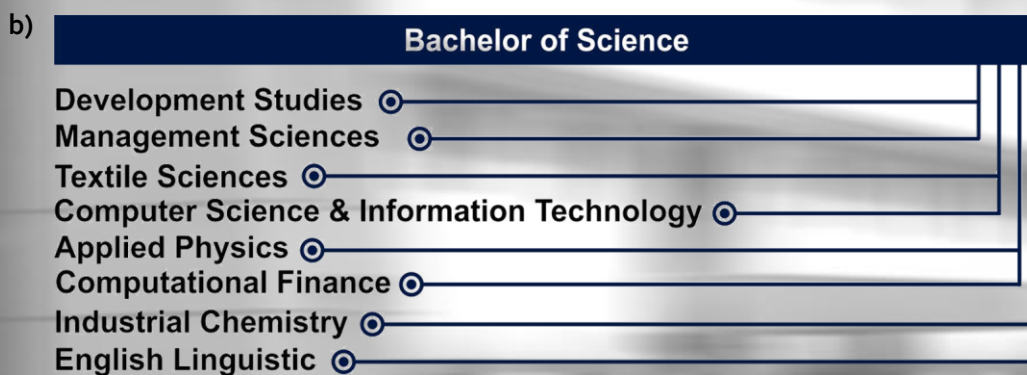
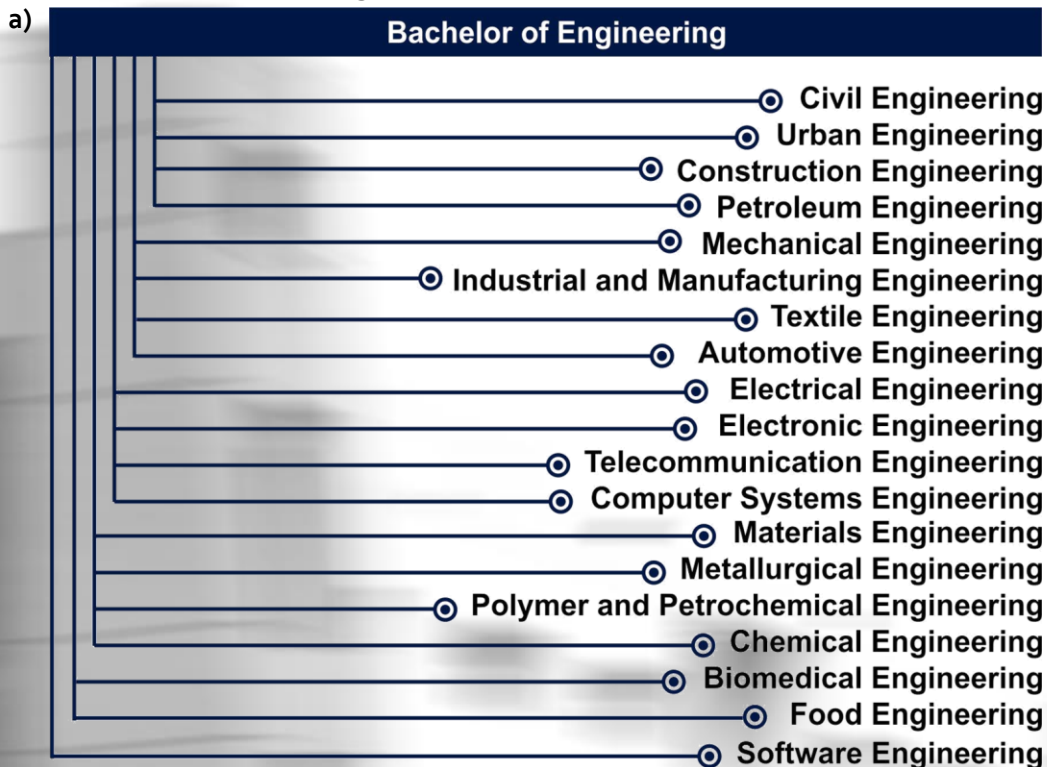
1. Introduction

The University offers the Bachelor's programmes in 28 disciplines of engineering, sciences and architecture. It also offers the Master's programmes in 48 different fields besides offering the PhD programme in selected fields.

2. Bachelors Programmes

The University offers four and five years full-time Bachelors' Programmes in various disciplines of Engineering, Architecture, Sciences and Technology; details are given as follows:

2.1 4-Year Bachelors' Programmes



2.2 5-Years Bachelor's Programme



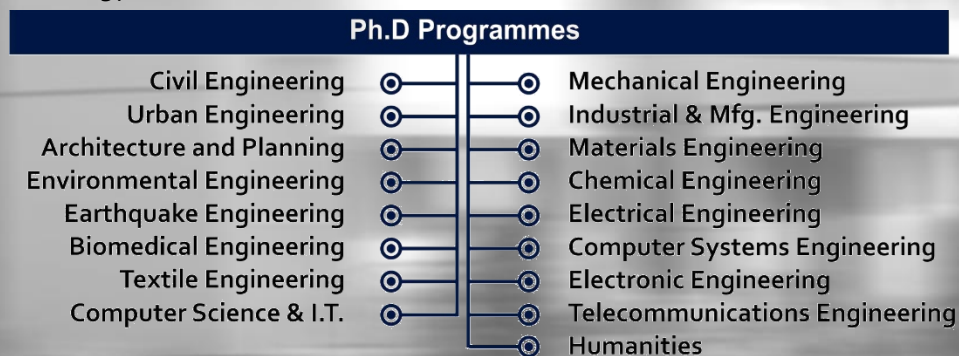
3. Masters Programmes

The University also offers day-time and evening-time Masters' Programmes in various areas of specializations of Engineering, Architecture, Sciences and Technology; details are given as follows:

Discipline with Specialization	Discipline with Specialization
Civil Engineering <ul style="list-style-type: none"> • Structural Engineering • Geo-technical Engineering • Transportation Engineering • Coastal and Water Resources Engg. 	Mechanical Engineering <ul style="list-style-type: none"> • Design • Energy Systems • Renewable Energy • Energy & Plant Management
Engineering Management <ul style="list-style-type: none"> • Construction Management • Water Resource Management • Transportation Infrastructure Manag. • Industrial Management • Quality Management • Energy Management • Textile Management • Environmental Management • Supply Chain Management 	Architecture and Planning <ul style="list-style-type: none"> • Architecture • Urban & Regional Planning • Real Estate Management
	Automotive Engineering <ul style="list-style-type: none"> • Automotive Design • Automotive Manufacturing • Computational Engineering
	Textile Engineering
	Physics
Chemical Engineering	Polymer Engineering
Materials Engineering	Computer and Inf. Systems Engineering <ul style="list-style-type: none"> • Computer Architecture & Systems Design • Computer Network & Performance Evaluation
Humanities <ul style="list-style-type: none"> • Applied Linguistics • Economics & Finance 	
Environmental Engineering	Applied Mathematics
Earthquake Engineering <ul style="list-style-type: none"> • Earthquake Engineering • Disaster Sciences and Management 	Computer Science & I.T. <ul style="list-style-type: none"> • Computer Science & I.T. • Information Security
Bio-Medical Engineering	Industrial and Manufacturing Engineering <ul style="list-style-type: none"> • Manufacturing Engineering
Industrial Chemistry	
Electronic Engineering <ul style="list-style-type: none"> • Micro System Design • Industrial Electronics • Telecommunications Engineering 	Electrical Engineering <ul style="list-style-type: none"> • Control Systems • Electrical Power Systems • Electrical Machines & Drives

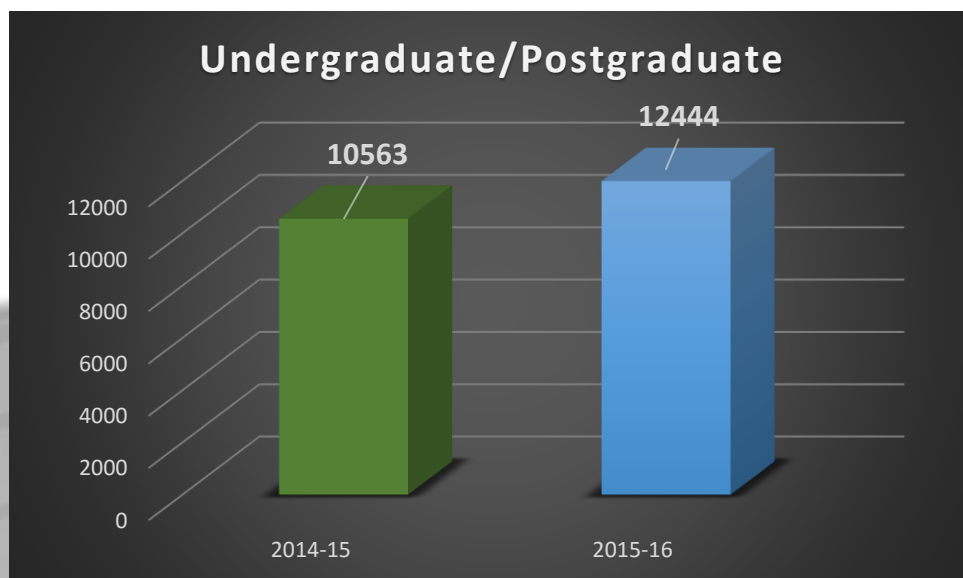
4. Ph.D Programmes

Ph.D Programme is being offered in following disciplines of Engineering, Architecture, Sciences and Technology.



5. Academic Achievements

- New Undergraduate Programmes namely BS English Linguistic have been introduced.
- New Postgraduate Programme namely MS Data Engineering & Information Management has been introduced.
- The enrolment which was 10563 in 2014-15 was increased to 12444 in 2015-16.



6. Convocation

- The Convocation 2016 was held on 10th March 2016; in this Convocation 1218 degrees for undergraduate, 109 degrees of Masters Programme and 02 degrees of PhD were awarded.



7. Honors and Awards

- HEC Scholarship Received: The following three students of MS Applied Linguistics Batch 2014-15 have earned ELTR sponsored indigenous studentship (Phase II)
 - Ms. Almas Ashraf
 - Ms. Rukhsana, and
 - Mr. Ali Sher Ghanghro
- A project named, Text-to-Speech for Urdu: Understanding Innovation, by DAAD (German Academic Exchange Service), Germany has hired three MS Students as junior linguists, namely; Mr. Munir Masih, Ms. Alia Farooqui, and Ms. Shazia Mushtaq

- Dr. Syed Mehmood Hasan awarded an "Australia Award" "International - Australia Award Short Course on Business Incubation Management (5 weeks) University of Queensland-Brisbane, Australia" in category of "Administration"
- Dr. Syed Mehmood Hasan awarded a "CLDP 2016" "International - Commercial Law Development Program (1 week) in San Diego, California – USA" in category of "Administration"
- Dr. Anis Fatima awarded "Sep 2015" "2014 A M Strickland Prize: The Manufacturing Industries Division Board of the Institution of Mechanical Engineers" in category of "Research"
- Mr. M. Shoiab awarded "Jun-14" "General Assembly of Erasmus Mundus" in category of "Miscellaneous"002E
- Mr. M. Shoiab awarded a "Oct-15" "the Quality Assurance Program of eramus mundus" in category of "Miscellaneous".
- Dr. Sheheryar Mohsin Qureshi awarded a "Korea Industrial & Systems Engineering (KSIE) for 2015-16" "National (Korean)" in category of "Research".
- Dr. Syed Mehmood Hasan, Australia Award, November - December 2015, "International - Australia Award Short Course on Business Incubation Management University of Queensland-Brisbane, Australia" (5 weeks) in category of "Administration"
- Dr. Syed Mehmood Hasan, CLDP 2016, Feb-16, "International - Commercial Law Development Program (1 week) in San Diego, California – USA" in category of "Administration".
- Dr. Anis Fatima, Sep 2015, "International 2014 A M Strickland Prize: The Manufacturing Industries Division Board of the Institution of Mechanical Engineers" in category of "Research".
- Mr. Muhammad Shoiab, Jun-14 International "General Assembly of Erasmus Mundus" in category of "Miscellaneous".
- Mr. Muhammad Shoiab, Oct-15 International "the Quality Assurance Program of eramus mundus" in category of "Miscellaneous".
- Dr Sheheryar Mohsin Qureshi, Editorial Board Member of the Journal of Society of Korea Industrial & Systems Engineering (KSIE) for 2015-16 Apr., '15 National (Korean) in category of "Research".
- Syed Suleman Abbas Zaidi, Syed Muhammed Murtaza and Kumail Abbas won 1st, 2nd and 3rd prize in Mobile Applications & Games in Cache 2015 competition.
- Qurat ul Ain, Riba Khurram and Fatima Waheed won 1st, 2nd and 3rd prize in Desktop Applications in Cache 2015 competition.
- Inshal uddin, Syed Suleman Abbas Zaidi and Barkat Khan won 1st, 2nd and 3rd prize in Hardware in Cache 2015 competition.
- Barat Kumar, Hammad Shakil and Hamza Zain won 1st, 2nd and 3rd prize in Web Applications in Cache 2015 competition.
- Muhammad Yaseen Aftab received 2nd prize in DICE Health Exhibition & Competition Expo in August 2015.

- The students of department of Petroleum Engineering participated actively in the outreach activities and presented papers/ participated in the following conferences:
 - Middle East Oil & Gas Show and Conference, 8-11 March 2015, Kingdom of Bahrain
 - SPE Asia Pacific Student Chapter Conference, 25-30 Oct 2015, Malaysia
 - SPE-PAPG Annual Technical Conference, 25-26 Nov 2015, Islamabad, Pakistan
 - International Petroleum Technology Conference & Exhibition, 06-09 Dec 2015, Qatar.

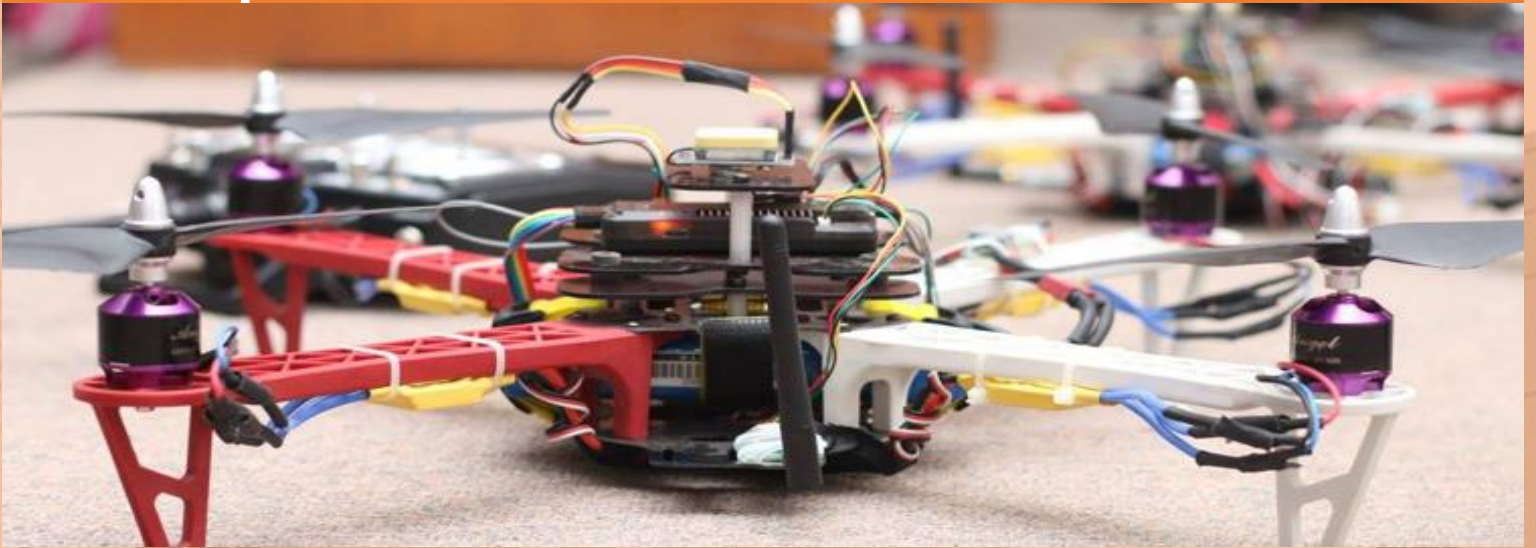
8. Institutional Linkages

- Department of Civil Engineering:
 - Florida International University, USA,
 - East Carolina University, USA
 - Auburn University, USA
 - Geo-Hazard International, USA
 - University of California, Berkley, USA
 - Stanford University, USA
 - Middle East Technical University, Turkey
 - ACECOMS , Asian Institute of Technology, Thailand
 - University of Montana, USA
 - University of Colorado, USA
 - University of Minho, Portugal
 - University of Washington, Seattle, USA
 - EU-NICE (Eurasian University Network for International Cooperation in Earthquakes)
 - Sapienza University of Rome, ITALY
 - University of Chieti-Pescara, ITALY
 - University of Basilicata, ITALY
 - University of Patras, GREECE
 - University of Aveiro, PORTUGAL
 - NSET National Society for Earthquake Technology, NEPAL
 - Tribhuvan University, NEPAL
 - University of Dhaka, BANGLADESH
 - Prince of Songkla University THAILAND
 - Chongqing University, CHINA
 - Nangarhar University, AFGHANISTAN
- Department of Petroleum Engineering:
 - Department of Petroleum Engineering in collaboration with Pakistan Petroleum limited (PPL) has conducted a year-long (09th November 2014-10th November 2015) Extended Internship Programme (EIP).
 - The Department of Petroleum Engineering in collaboration with Pakistan Petroleum limited PPL has conducted a two (02) weeks technical training session for Iraqi Professionals from midland oil company Iraq at Movenpick Hotel from 21st July 2015 to 1st August 2015.
 - Portsmouth University, UK; Conducted seminar and distinguished lectures for the industry as well as students.
- Department of Biomedical Engineering:
 - MoU signed between Dow University of Health Sciences and NED University of Engineering & Technology on 25-06-2010
 - An agreement was signed with Dow University of Health Sciences to establish Dow Diagnostic & Radiology Lab (DDRL) collection point at LEJ Campus on 20-05-201, running successfully according to agreement by the last four years.
 - Efforts are being made to establish a MoU with Indus Hospital.
 - Dedicated efforts are in pipeline to sign an MoU with SIUT, Karachi.

- Department of Earthquake Engineering has strong linkages with the University of Engineering and Technology, Peshawar, NORSAR, Aga Khan Development Network, Pakistan (AKDN), Aga Khan Planning and Building Service, Pakistan (AKPBS,P), National Disaster Management Authority (NDMA), United Nations Development Programme (UNDP), etc.
- Department of Computer & Information Systems Engineering:
 - The first such step was undertaken with SUPARCO with the idea to work on space related projects and to hold different Seminars and Workshops for the students by their Professionals.
 - Pakistan Telecommunication Authority (PTA) and both have identified research area of blocking grey traffic and cybercrimes for collaboration. A Memorandum of Understanding will be soon signed between PTA and NED.
- Department of Humanities:
 - Educational Resource Development Centre (ERDC), Karachi. They collaborated as organizing partner for the International Seminar on Rumi, Iqbal & Sir Syed on 3rd March 2016
 - All international and national academics, who are associated with the department, were involved in different activities of the Journal [JSSIR]
 - Goethe Institut Karachi continued conducting German language Courses in Summer 2015 and Spring 2016. MoU signed for 2015 and 2016 semesters
 - Alliance Francaise Karachi, MoU signed for 2016. French Language Courses have been announced.
 - Rumi Forum, Karachi They collaborated as organizing partner for the International Seminar in Rabiul Awwal in January 19, 2016 and another International Seminar on Rumi, Iqbal & Sir Syed on 3rd March 2016
 - SPELT (Society of Pakistan English Language Teachers): Humanities Department Students and Faculty (SPELT members) and Chairperson (Life member SPELT and Coordinator Research SIG) organized the Research SIG programme at the 31st International Annual SPELT Conference.
- Department of Urban & Infrastructure Engineering:
 - Road Traffic Injury Research
 - Joint Research based on the Platform of Construction Material Research Group
- Department of Petroleum Engineering:
 - Applied Geophysics. NTNU, Norway
 - University of Portsmouth, UK
 - University of Petras, Greece (under EU Erasmus Mundus Programme)
- The Department of Computer Science and Information Technology has established linkage with School of Computing, Leeds University, Department of Computing Science and Mathematics, Stirling University, and National ICT Australia.
- Industrial & Manufacturing Department:
 - Loughborough, UK.
 - Dogus University, Istanbul, Turkey.
 - Lucian Blaga Sibiu University, Sibiu, Romania.
 - Government College of Technology (GCT)
 - Bachelor of Technology (Pass & Hons.) in Civil, Electrical & Mechanical Technologies
 - PAF Institute of Aviation Technology (PAF-IAT)

- Bachelor of Technology (Pass) in Aero Electronics and Aero Mechanics and Technologies
- PCSIR Pak Swiss Training Centre (PSTC)
- Bachelor of Technology (Pass) in Mechanical Technology
- Karachi Tools, Dies & Moulds Centre
- B. Tech (Pass) in Dies & Moulds Technology
- Department of Materials Engineering:
 - PCSIR Labs
 - Peoples Steel Mills Ltd
 - Dawood University
 - KTDMC Ltd.
 - Aisha Steel Mill Limited
 - Omar Jibran Engineering Industries Ltd.
 - Pakistan Steel Mills Ltd.
 - Tri Pack Films Ltd.
 - Pakistan Cables
 - Karachi Shipyard Ltd.
- Department of Metallurgical Engineering:
 - Pakswiss Training Center, PCSIR Laboratories
 - Dawood University and Engineering and Technology
 - Mehran University of Engineering and Technology, Jamshoro
 - Karachi Tool Dies and Mold Center, Karachi
 - SGS Krachi
 - Pakistan Wire Industries
 - Amreli Steels
 - People Steels
 - Pakistan Steel Mill
 - PIA
 - Heavy Mechanical Complex
 - Bolan Casting
 - Pakistan Aeronautical Complex Kamra
 - Pak Suzuki
 - Atlas Engineering

Chapter – 2



RESEARCH AND DEVELOPMENT

Research and Development

1. Introduction - Overview of Research and Development (R&D)

Many areas of Pakistan lie in seismic risk zones. The available statistics indicate that some of the greatest earthquakes in the world with magnitude greater than 8.0 occurred in a short span of 50 years in the Indian Subcontinent. The devastations made first by the Quetta earthquake of magnitude 7.5 (which killed as many as 25,000 people in 1935) and recently by the Kashmir earthquake of magnitude 7.6 (which killed 73,000 people in 2005) can never be forgotten by the Pakistani nation. In particular, the Kashmir earthquake once again revealed, more clearly than ever, lack of capacity of the Pakistani academic, public, and private sectors to mitigate the earthquake hazard.

The department greatly realizes the importance of continuation of Research and Developments in the field of Computer Engineering. Three research groups are, therefore, established in the department to cater the research in different fields of computer engineering. The name of research groups are as follows:

- VLSI Design and Testing managed by Dr. Muhammad Khurram
- High Performance Computing managed by Dr. Muhammad Ali Ismail.
- Teletraffic and Internet Security managed by Dr. Muhammad Asad Arfeen.

Emerging Technologies Research Group (ETRG) is a research group in Electronic Engineering Deptt which is active in the emerging technologies research.

Research Centre and Facilities

a) Cowasjee Earthquake Study Centre (CESNED)

Cowasjee Earthquake Study Centre (CESNED) was established in 2001 after the devastating Bhuj earthquake. The objectives of CESNED include housing national and global data pertaining to earthquake and act as a centre for disseminating accumulated knowledge, as well to respond to emergency needs and be able to provide guiding principles for pre and post-earthquake mitigation. CESNED has been a hub of earthquake related activities since its establishment. It also publishes of a biannual newsletter. The vital role played by CESNED after the October 2005 Kashmir earthquake led to its recognition as one of the two earthquake study centres in the Country. CESNED is funded by HEC for its future development as an International Centre.

b) Shake Table Laboratory (STL)

The Shake Table Laboratory (STL) consists of a 3 M x 3 M seismic simulation table. The table has a linear hydraulic actuator with a fatigue rating of 110 kip (500 kN) which is guided by linear bearings. The stroke capability of the unit is ± 300 mm (± 12 inch) with a nominal peak velocity of 1 meter/sec (40 inches/sec) and average velocity of 1 meter/sec (20 in/sec). The linear guide bearing are sized to test a 20 MT payload with a CG 3 M off the table surface, with 60 MT-M over turning moment at 1g. The table surface includes a mounting grid pattern to simplify specimen attachment.

The table is connected to a controller and a data acquisition system which has four (4), 32 bit input A/D channels with 16 bit programmable attenuators, one, 64-bit output D/A channel with 16-bit D/A, one, high speed signal processing module, classical shock vibration and a 2.93 GHz PC based computer.

c) Advanced Material Testing Laboratory (AMTL)

Advanced Material Testing facility, equipped with state-of-the-art equipment, is one of its kinds in the region is established. It has a 1m thick reaction floor and 1.3m thick reaction wall which will be used for testing of structures subjected to vertical and lateral loads. Lab has the facility to test prestressed girders of up to 110 ft. lengths. Equipment include a Portal Frame designed to work with the 5000 kN Pseudo Dynamic Test System. This system consists of 2 large structural H beams to provide the vertical support and is mountable to reaction floor. Complete system includes 5000 kN actuator, Hydraulic Power Supply, Hydraulic Service Manifold, Digitally supervised analog servo controls, Pseudo dynamic application software, and a 300 channel data acquisition system. Other equipment include Dynamic Hydraulic Linear Actuator 55 kip (250 kN), Dynamic Hydraulic Linear Actuator 110 kip (500 kN), Structural Test Hydraulic Actuator 220/335 kip (1000/1500kN), Hydraulic Linear Actuator 450/600 kip (2000 kN/2670 kN), 300 Channel Data Acquisition System, LVDTs, Load Cells.

d) Koshish Foundation Research Lab (KFRL)

It has been around two years since the foundation of this Lab was built by Dr. Muhammad Khurram, Associate professor CIS dept. NED UET, with human resource funding provided by Koshish Foundation. The main theme of KFRL is Internet of Things (IoT) based projects due to its potential and emergence expected in near future. However, the projects carried out here are not limited to this field only.

There are currently one PhD, four Masters, and around 40 Bachelors students working in KFRL as Senior Research Assistant (S.RA), Research Assistant (RA), and Research Student (RS) respectively. The KFRL is equipped with high quality computers, high speed internet facility, good quality furniture, all equipments required for PCB design, multi-meters, oscilloscope etc. In addition to these basic facilities, as per project requirement basis the students are provided with all necessary components i.e., micro-controllers, various sensors, various radio modules, bread boards, and other all related stuff.



Currently KFRL is working on various projects listed as under,

1. Wireless Sensor Network Deployment for Water Resource Management (WARM)
2. RFID Based Entrance and Parking System
3. Wi-Fi Enabled Wind Sonic Sensor Design
4. Patient Monitoring System- Smart Oximeter
5. A Cost Effective Solution for Smart Home in Pakistan

The WARM project has been funded by DAAD-Germany under German-Pakistani Research collaboration Program and has been jointly executed by KFRL and DFKI (German Research Center for Artificial Intelligence). KFRL team has made significant progress and successfully deployed initial prototype of the project at a small farm in Civil dept. NED UET. Various sensors have been interfaced with end nodes for monitoring the soil and environment of the crop and through coordinator node the collected readings are transferred to cloud in real time.



RFID Based Entrance and Parking System have been funded by NED UET due to security issues faced by Karachi. KFRL team has designed two nodes for each entrance and exit gate, both nodes are integrated with camera. One node is used for authentication of RFID card and capturing the person driving the vehicle, other node is used for capturing the Plate ID of the vehicle. Collected data is transferred to cloud designed by HPCC through Wi-Fi communication.

KFRL team has also designed Wi-Fi enabled wind sonic sensor which is extremely cheap and efficient in design. The first prototype has been installed at the roof of CIS dept. and working smoothly. Currently team is working on its second version which is Solar panel enabled, more power efficient, and with a better architecture that is sustainable against several weather conditions.



KFRL is also trying to propose a cost effective solution for smart home in Pakistan. The team has successfully designed smart energy meter and socket through which loads can be controlled remotely using mobile app and active/reactive power consumed can be monitored. Complete proposal of this project has been submitted to ICT R&D in last July, 2015, it has passed through several revisions and currently it is under second external revision process.

In addition to projects, KFRL team actively conducts various workshops throughout year, creating opportunities for students to have hands on experience and practical insights into latest technologies. Recently KFRL organized an international first Pak-German Workshop on Smart Irrigation in which various speakers from national and international universities participated. KFRL team actively participate in various exhibition and competitions i.e., DICE health exhibition & competition, DICE energy competition, IoT exhibition organized by Telenor, and other exhibitions organized by IEEEEP. KFRL also gave chance to students for internship at DFKI (German Research Center for Artificial Intelligence) for three months, currently three of CIS dept. NED UET students are doing internship there. KFRL team produce research publications throughout the year.



e) High Performance Computing Center

High Performance Computing Centre at NED University of Engineering & Technology manages High Performance Computational resources to address the miscellaneous computational needs. With 10 TFLOPS of computational power and various scientific software along with related expertise, the centre provides an excellent state-of-the-art R&D and business opportunities for its users.

Computational resources

The centre is equipped with all basic parallel computing platforms / architectures including Shared Memory (SMP), Multi-cores, Distributed Memory (Cluster), GPGPUs and Cloud Infrastructure. The centre has 10 TFLOPS of computational power consisting of Intel Xeon 3xxx and 5xxx series, AMD Opteron and Nvidia / AMD Radeon GPGPU cards.

- **HPCC Cloud:** The HPCC cloud offers pre-configured or on-demand configured instances based on open source technologies to store, manage, and process data, rather than on a local server. This reduces cost and complexity of buying and managing the underlying hardware, software, provisioning and hosting. Currently we support PaaS and IaaS Cloud model. The cloud is ideal for universities and R&D organizations for implementing virtual laboratories and various test-beds.
- **Cluster Systems:** The centre has two cluster systems. These systems offer high performance and high availability computing platforms to researchers and industries for their specific computational hunger workloads such as engineering design, data mining, financial data analysis, business intelligence, digital media etc.
- **Software Repository:** The Centre also serves as a software repository for the whole university. Numerous generic as well as application oriented open-source and licensed software, related to different engineering disciplines, are available for use in all kinds of Research & Development work. Stand-alone software can only be used at the Centre while Network based software enable the usage throughout the University.

Services and Support

- **Training and Consultancy:** Training and consultancy services are available at the centre with a vision to promote the human capital and IT infrastructure with effective training, development and management process. Highly customized and flexible training and consulting sessions can be arranged for individuals and groups either on-site or on-line. Our training service aims to equip individuals and organizations with fundamental concepts and the latest tools in the relevant areas. Some prominent areas include High Performance / Parallel / Cloud / Big-data / Cluster / Enterprise Computing along with their designs, development and management methodologies.
- **Cloud and Parallel Application Development:** The centre also facilitates in design, developing debugging, and evaluating the performance of a shared, multi-core, distributed, GPGPU and / or hybrid parallel programs. We can provide guidance in all well-known programming standards including MPI, Pthreads, OpenMP and CUDA.
- **Research Support:** The centre aims to promote the multi-disciplinarily, inter-disciplinary, trans-disciplinary, and / or cross-disciplinarily research involving nearly all the related engineering and applied sciences domain. Full support and supervision is available to parallelize the serial codes and execute complex simulations on a high performance computing environment

Technologies in Focus

- Open source Cloud Computing. OpenStack, Cloudera
- Parallel Programming standards including MPI, Pthreads, OpenMP, CUDA
- Big Data Computing Apache Hadoop, MongoDB, spark, Storm
- Data Analytics / Machine Learning / Deep learning
- Semantic Web OWL, RDF
- Cluster/Distributed/GPGPU/Multi-core Computing
- Software Defined Networking (SDN)
- Web Services XML
- Virtualization / Operating System Design

Some Major HPCC clients / Users / Research collaborators

- M/s. HinoPak Motors.
- M/s VSi (based in California's Silicon Valley).
- M/s xFlow Research Inc. (based in California's Silicon Valley).
- Centre of Advanced Studies in Pure & Applied Mathematics, BahauddinZakariya University, Multan.
- Karachi Institute of Power Engineering.
- Baluchistan University of Information Technology, Engineering and Management Sciences. Pakistan.
- Koshih Foundation Lab, NEDUET.
- Center for Communications & IT Research King Fahd University of Petroleum Dhahran, KSA.

Solutions / Products and Technologies at HPCC

Cloud Based Solutions / Products

- Deployment and configuration of open sources private cloud
- Trusted third party HSM for cloud computing
- Cloud Backup and Restore management software

Analytical System Solutions / Products

- Big Data a Analytical System

SDN Based Solutions / Products

- Optimizing Big Data Processing Using SDN
- Firewall as Service (Soft Firewall)

Others Solutions / Products

- Secure File System
- Smart Parking System

A bird's eye view of research publications and grants is provided in the table below:

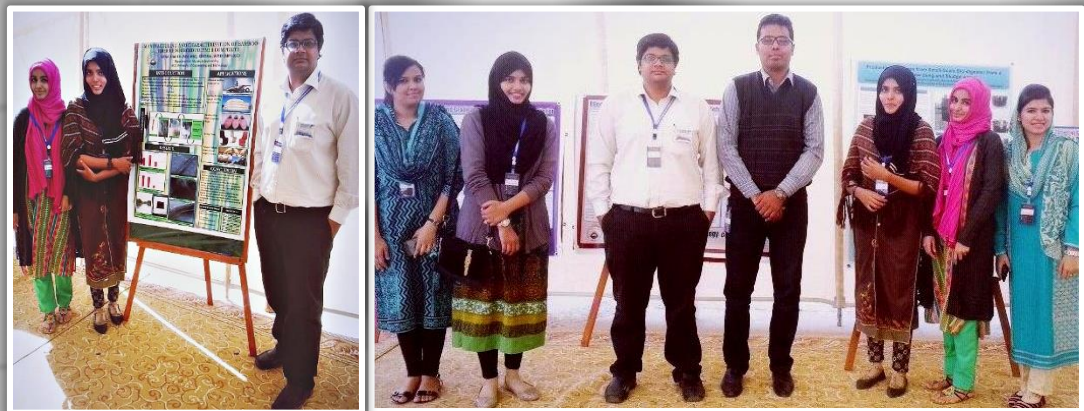
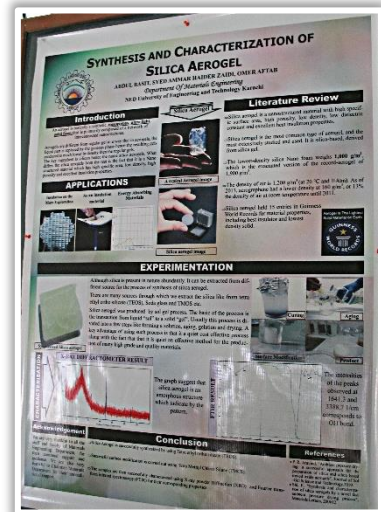
Name of Teaching Departments	Research Publications		Research Projects		Research Funding [Million Rs]	
	Impact Factor - [JCR]	Publications in HEC Recognized National Journals	From Industry	From Govts	from International sources	from Local sources
Physics	3	-	-	1	-	0.500
Architecture & Planning	0	7	2	-	-	-
Automotive Engineering	0	-	-	-	-	-
Biomedical Engineering	2	-	-	1	2.190	-
Chemical Engineering	12	-	-	-	-	-
Civil Engineering	17	2	6	4	72	23.09
Mathematics	9	-	-	-	-	-
Computer Systems Engg	3	3	2	-	1.200	4.750
Computer Science & I. T.	1	1	-	-	-	-
Electrical Engineering	1	-	-	1	3.530	-
Electronic Engineering	21	10	-	-	-	-
Environmental Engg.	3	-	-	3	1.431	-
Industrial & Manufacturing Engg.	2	-	-	-	-	-
Chemistry	1	14	-	1	-	0.500
Materials Engineering	3	-	-	-	-	-
Mechanical Engineering	4	1	-	1	-	7.499
Metallurgical Engineering	1	2	-	-	-	-
Petroleum Engineering	0	-	2	2	40.844	8.000
Polymer & Petrochemical Engg.	0	-	-	-	-	-
Textile Engineering	11	-	4	-	-	1.040
Urban Engineering	0	12	-	2	2.800	2.600
Food Engineering	1	1	-	-	-	-
Total	95	53	16	16	123.995	47.979

2. R&D Projects

2.1 Completed Projects

- Exploring the Perceptions of Stakeholders Regarding the Usefulness of English Courses Taught at ADE / B. Ed. [Candidate: Nimrah Anis, Supervisor: Dr. Hina Hussain Kazmi]
- Teaching Strategies to Alleviate ESL Speaking Anxiety of Undergraduate Students: An Experimental Investigation [Candidate: Aisha Khan, Supervisor: Dr. Hina Hussain Kazmi]
- Teaching English as an International Language in Pakistan: Reflections in Tertiary Level Degree Programmes [Candidate: Muhammad Bilal, Supervisor: Dr. Imran Khan]
- Systematic Implementation of Communicative Language Teaching Method in ESL/ EFL Classroom [Candidate: Hatesh Kumar, Supervisor: Dr. M. Fareed]
- Using Three Tier Evaluation in Tertiary EAP Writing Classrooms: A Strategy for Enhancing Students' Engagement and Achievements and Tackling Classroom Challenges in Public Sector ESL Context [Candidate: Mehwish Arif, Supervisor: Dr. Sajida Zaki]
- Code-mixing and borrowing in Pakistani Urdu newspapers: Linguistic features and attitude of the readers [Candidate: Huma Akhtar, Supervisor: Dr. M. Fareed]
- Evolution of English as an International language: Historical Developments, Theoretical Underpinnings for Contemporary Applied Linguistics Professional [Candidate: Nida Saeed, Supervisor: Dr. Sajida Zaki]
- Factors that Effect ESL Reader's Comprehension Performance: The Pakistani Undergraduate Context [Candidate: Hamna Khalid, Supervisor: Dr. Imran Khan]
- Exploring Speaking Anxiety among Tertiary Learners of English as Second Language [Candidate: Syed Qaiser Hussain, Supervisor: Dr. M. Fareed]
- Practices of English Language Teachers for Grammar Teaching at Primary Level in KMC Schools of Karachi [Candidate: Samra Arshad, Supervisor: Dr. Najeeb us Saqlain]
- Language Assessment Practices: Practices of In-service tertiary level ELTs and Effects of Training on their practices [Candidate: Samreen Humayun, Supervisor: Dr. Sajida Zaki]
- Exploring Language Assessment Practices in English for Academic Purposes at Universities in Karachi [Candidate: Almas Ashraf, Supervisor: Dr. Sajida Zaki]
- Promoting Functional Diversity for Language Development: A Case-Study of 'Functional English' Syllabus at Tertiary Level; Aiming Engineering Industry Needs [Candidate: Nazra Zahid, Supervisor: Dr. Fatima Rehan Dar]
- Designing / Layout of a Special Warehouse for Oil and Gas Industry.
- Development & Implementation of Supplier Development program for Manufacturing Firm.

- Effect of Epoxy Modifier on Mechanical Properties of Nano-Hybrid Composite
- Synthesis and Characterisation of Silica Aerogels
- Thermochemical Influence on the Particle Size of Greenly Synthesized Zinc Oxide Nanoparticles
- Synthesis and Characterization of Bio-Morphic Alumina Fibers
- Manufacturing of High Impact Strength Hybrid Composite
- Synthesis and Characterisation of Bamboo Fiber Reinforced Polymer Composite
- Synthesis of Hydrogel Membrane and Its Characterization
- Synthesis and Characterisation of Zinc Oxide & Titanium Oxide Nanoparticles for application in UV protection coatings
- Synthesis and Characterization of Alumina Magnesium Aluminate Ceramic Foam and its application in Water Filtration
- Synthesis and Characterisation of Magnetorheological(MR) Fluid
- Manufacturing and Characterisation of Coconut Fiber reinforced Concrete
- Manufacturing & Characterisation of Honeycomb Sandwiched Carbon Fiber Reinforced Polymer Composite
- Synthesis and Characterisation of Silver Nanoparticles and its application.
- Design and development of Blast Furnace.
- Design and development of Galvanizing Setup.
- Design and development of Paktech process for Mg- production.
- Design and development of BLAST Furnace for small scale production.
- Heat treatment of Nodular Cast Iron or Study the Austempered Ductile Cast Iron (ADI).
- To design high strength Bainitic Steel.
- Design and development of Ball Mill.



- Investment casting: Parameters, application and recent development.
- Synthesis and characterization of BaTiO₃ Piezoelectric Ceramic material.
- Design and development of Cupola Furnace.
- Design and development of Foundry setup (sand casting & rotary casting).
- The microstructural characterization of induction hardened steel by using etchant techniques/ tint etching

- Dual Phase steel: Microstructure and Property Analysis.
- Effect of tempering temperature on the susceptibility of intergranular corrosion of Austenitic SS.
- Design and implementation medium voltage switchgear assembly line through lean methodology.
- Development of a Mathematical Correlation of print Density and Raster Orientation with Anisotropic Mechanical Properties of 3D Printed Part.
- Conversion of linear tool to Spline tool path.
- Designing QA Waste Elimination Model for Toyota Global Market (Corolla).
- Component Reliability for Preventive Maintenance Strategy.
- Development & Implementation of Supplier Development program for Manufacturing Firm
- Developing of a Mathematical Correlation of Print Density and raster Orientation with Anisotropic Mechanical Properties of 3D Printed Part.
- Conversation of linear tool to Spline tool path.
- Developing a strategic framework for self-reliance in Defence Production in Pakistan.
- Solar absorption refrigeration system.
- Automation of blending vessels with required instrumentation. (Budgetary Project of Dalda)
- Self-contained food warming unit (tripack)
- Development of bioactive edible coating for food products.
- Control and fabricate a robotic arm for sorting of various spoiled and solarized food commodity according to their color complexion.
- Traffic Study for BRT corridor, Blue Line, Integrated Transport Planning Ltd, UK of amount US\$ 24,846.
- "Project Preparatory Technical Assistance (PPTA) for BRT Red Line along University Road, New M.A Jinnah Road and Old MA Jinnah road" from January - March 2015, awarded by ITP World in coordination with NESPAK. The project included collection and analysis of traffic counts and travelers surveys along the designated corridor.
- Selection, design and Implementation of Metal and Ceramic Composite Material for High Temperature Application (up to 1350 oC) at Static Load of Approximate 25 MT and Cost Evaluation
- Role of Inclusion in Generating Cracks During Hot Rolling
- Material Selection and Designing of Discharging Arms and Shoe Boxes for Walking Beam Furnace at Working Temperature 1200-1300 oC and 1.5 Tons Load
- Hard Surfacing for High Temperature Applications (Turbo-Machinery Component Repair)
- Development of Ceramic mould for Investment Casting by Using Local Refractory Materials
- To Study Fliform Corrosion Resistance of Organic Coating on Metal-ASTM D2803-03
- Secondary Cooling and Sub-Surface Cracks During Continues Casting
- Welding of Aluminum Alloys for Aerospace and Automotive Applications
- Failure Analysis of Leaf Spring
- Calcium Treatment of Al-killed Steel
- To Determine the critical temperature of Low Carbon Steel by Thermodynamical Calculation (Using Software i.e. Thermo Calc) and verify it from Dialatometry
- Process for Making Dead Burnt Dolomite for Subsequent Manufacturing of refractory Bricks
- Q & P Process of AISI-420 Stainless Steel

- Establishment of Norwegian Centre of Excellence in Petroleum Studies at NED University. A 2.917 million NOK funded by PAK-3004, Pak Norway Institutional Cooperation Programme.
- Development of Nano composite Coating by Electrodeposition of Nanoceramic
- Synthesis and Characterisation of Wood Plastic Composite
- Corrosion Protection of Steel Pipeline through Impressed Current Cathodic Protection System & Polymer Layered Nano Silicate Coating
- Synthesis and characterisation of porous ceramic
- Synthesis and characterisation of Al/SiC composite
- Manufacture of Fiber Reinforced Polymer Via Autoclave Using Preform
- Manufacture of High Performance Concrete
- Investigation of Failure in a crude oil pipeline
- Synthesis and characterisation of Polymer Layered Silicate (PLS) Nano composite
- Synthesis of Magnetite Nanoparticles and its application in Ferro Fluids
- Investigation the effect of Metallic Particles on Polymer
- Development of vehicle along with carriage for NED University.
- Development of smart Fortwo vehicle.
- Design and development of braking systems for automobiles (DICE).
- Design and development of connecting rod for automobiles (DICE).
- Development of anti-theft system for Suzuki Mehran.
- Evaluating the Influence of Concrete Block Infill Panels on Seismic Performance of RC Frames
 - Structures with infill walls are very common in many countries. Over the years it has been observed that the presence of masonry walls play an important role to resist the lateral loads due to high stiffness and strength in the reinforced concrete frame buildings. However, in most cases, the contribution of stiffness and strength due to presence of infill panels is not incorporated in the design process. Moreover, most of the countries do not specify the modeling, design and assessment procedures in their codes. In the absence of code requirements, there is a need to develop a realistic approach towards performance of masonry infill walls against the lateral loads. Moreover, it is noted that the influence of masonry on RC frames may be vary significantly due to different types of masonry used in different parts of world. A significant amount of work has been conducted to evaluate the lateral stiffness of RC frame with infill panel used in US and Europe. However, there is a lack of work in this area of research in Pakistan. Therefore, the main goal of this study is to evaluate the characteristics of concrete infill panels and their influence on the behavior of RC frame subjected to lateral loading so that simple analytical technique can be developed for structural designers for Pakistan region. To this end, various experimental tests shall be performed to obtain mechanical properties of the masonry infill using direct compression test, direct shear test and diagonal compression test. Subsequently, a full scale RC frame with concrete block infill will be tested for lateral loading to investigate the behavior of RC frame. Finally, the comparative analysis between experimental results of in-filled RC frame and analytical modeling will be conducted.
- Development of Vs30 Maps for Karachi
 - The objective of the research is to develop Vs30 (shear wave velocity at a depth of 30m) map for Karachi City by conducting geophysical (MASW- Multichannel Analysis of Surface Waves) and geotechnical (Using empirical relations through SPT-N value) surveys. The map will be utilized to conduct soil amplification study for Karachi and obtaining the data by two different methods would also help to recommend any one

method for future studies on the basis of its accuracy. The methodology of the project includes collecting borehole information and subsequent computation of V_{s30} . A cross check can be applied while experimentation is performed on same locations as that of boreholes by using conducting MASW survey to obtain shear wave velocity profile and V_{s30} . These values enable the division of Karachi City on the basis of its capability to amplify ground motions. The future perspective of the research would facilitate deterministic and probabilistic seismic hazard assessment. Furthermore, it will help engineers to carry out assessment and design of existing and new structures respectively.

- Disaster Management Information (DisMIS) Project
 - Pakistan's exposure to natural hazards could be ranked between moderate to severe. Natural hazards including avalanches, cyclones and storms, droughts, earthquakes, epidemics, floods, glacial lake outbursts, landslides, pest attacks, river erosion and tsunami pose risks to Pakistani society. A variety of human-induced hazards also threaten the society, economy and environment. These include industrial, transport, oil spills, urban and forest fires, civil conflicts and internal displacements of communities. High priority hazards in terms of their frequency and scale of impact includes earthquakes, droughts, flooding, wind storms and landslides that have caused widespread damage and losses in the past. The proposed study was based on conducting a feasibility analysis of development of a disaster management information system. Various components of the system were identified in the broader context of disaster management. The study focused on the hazards of earthquake, flood/tsunami, cyclone/wind and fire. The project was supported by National ICT R&D Fund, Pakistan and National Disaster Management Authority (NDMA), Pakistan.
- Physical Facilities Assessment (PFA)
 - AKPBSP aims to create school/facilities database constructed under the AKESP (Aga Khan Education Service, Pakistan) program through physical examination of each school and to examine the seismic inadequacy in structural designs against present codes and to develop retrofitting solutions.
 - Outcomes
 - Comprehensive AKESP facilities database and baseline
 - Identification of buildings requiring urgent attention
 - Recommendations for the prioritized interventions for major repairs and maintenance upgrading, retrofitting and implementation plan.
- Seismic and Flood Risk Assessment for Karachi
 - The project, funded by the World Bank, aims to compute the seismic and flood hazard for the predefined return periods for the city of Karachi. In addition, it involves development of exposure models for buildings, bridges and lifelines using a variety of crowd sourcing methods. The probabilistic risk assessment for earthquake and flood hazard is to be carried out ultimately to chalk out pre- and post-disaster mitigation strategies.
- Product Development Centre (PDC) has been established in July 2004 under the Industrial & Manufacturing Engineering Department; it has provided services to several industries. During the reporting period PDC was able to complete projects worth Rs. 37,000/- for Industries e.g. Matstress Engineering & Sherani Engineering.

- The research scholar, Mr Amir Zeb, Assistant Professor, Electronic Engineering, completed his PhD in Electrical Engineering under the supervision of Dr Shoaib H. Zaidi.
- Syed Tauqeer Ahmed Hashmi, Lecturer, Mr. Sohail Ahmed, Lecturer and Mr. Zakir Hussain Khan, Lecturer successfully completed their MS degree.
- Study on the Assessment of CO₂ Emissions from Trucks by Urban & Infrastructure Engineering
- Ground Water Disposal at Thar Coal Mine "Engineering Associates(EA)" National" "2014"
- Physical Facilities "Assessment (PFA)-I" Aga Khan Planning and Building Service, Pakistan (AKPBS,P)"National" "2014"
- Development of Fragility Curves for Karachi Bridges "Higher Education Commission Pakistan (HEC)"National" "2014"
- Physical Facilities Assessment (PFA)-II "Aga Khan Planning and Building Service, Pakistan (AKPBS,P)"National" "2014"
- Physical Facilities Assessment (PFA)-III "Aga Khan Planning and Building Service, Pakistan (AKPBS,P)"National" "2014"
- Seismic Hazard Study for the City of Karachi, Pakistan"Government of Norway" International" "2014"
- Tsunami Inundation Modeling "Oxfam GB" International" "2014"
- Energy-Retrofit Optimization Model for Sustainable Energy Management of Institutional Buildings in Pakistan"COMSTECH-TWAS: Organization of Islamic Countries (OIC) Standing
- Committee on Scientific and Technological Cooperation (COMSTECH)"National"2014"
- South Asia Earthquake Network (SHAKE-ICTP)"International Centre of Theoretical Physics, Italy"International"2014".
- **British Council Researcher Link Programme:**
Two shale gas workshops held under British Council Researcher link Programme. First at Portsmouth University, UK from 8-10 April 2015 and the second workshop at Norwegian Centre of Excellence in Petroleum Studies at NED University, Karachi from 03rd to 05th June , 2015 with participation from both the academia of the two universities and the petroleum industry of UK and Pakistan. The main objective of the workshop was to bring researchers of the two institutions and industry close together and to develop sustainable linkages for future collaborative research.
- **Technical Training Session for Mid Land Oil Company Participants, Iraq:**
To strengthen the existing knowledge regarding key sectors of Petroleum Industry among Iraqi Nationals from Mid Land Oil Company (Iraq), Pakistan Petroleum Limited Asia (PPL Asia) joined hands with NED University of Engineering and Technology under the already

existing strategic alliance between PPL and NEDUET to offer “Refresher Course for Iraqi Nationals”. The programme was designed with an aim to impart and implement and boost existing trends in Petroleum Industry through a two (02) weeks refresher course in Nine (09) major areas of Petroleum Industry. This course was started on 21st July 2015 and ended on 1st August 2015.

- **PPL Extended Internship Programme**

To meet the challenges of capacity building of qualified youth from a cross section of society with special consideration to marginalized communities in Pakistan, Pakistan Petroleum Limited (PPL) joined hands with NED University under the already existing strategic alliance between PPL and NEDUET to offer an Extended Internship Program (EIP)- First of its kind of Academia- Industry collaboration in Pakistan.. The program had been designed with an aim to offer and implement a quality 12 months full time extended internship (November 09 ,2014 to November 10,2015) in five major categories that include Engineering, Management, Information Technology, Geoscience & DAE.

2.2 Newly Launched Projects

- **Establishment of Norwegian Centre of Excellence in Petroleum Studies at NED University:**

Under the Norwegian funded project of Frame work Institutional Cooperation Programme (FICP) of PIP section of Ministry of Planning, Development & Reform, Government of Pakistan a Norwegian Centre of Excellence for Petroleum studies (NCEPS) at Department of Petroleum Engineering, NED University is being established. The NCEPS involves the capacity building of faculty and strengthening of laboratory resources.

- Exploration of the Advantages and commercial viability of using wheat straw as a soil stabilizing Agent
- Development of Safer Facilities Information Model (SFIM) using Virtual Reality (VR) - A step towards Achieving Total Facilities Management (TFM)
- Achieving sustainable safety – A perception based expert safety model for construction workers
- Behaviour of RC Beams Strengthened in Shear and Flexure Loading regions using Textile Reinforced Mortar
- Modelling Blast Effects in Structures
- Preparation of Guidelines for the Implementation of BIM on projects in Pakistan
- Dhabeji Pumping Complex-Case Study
- Numerical Modelling of Wall Structure Subjected to Blast Loading
- Traffic Signal Optimization based on Real Time Traffic Estimate
- Calibration of Cell Transmission Model for Heterogeneous Traffic
- Determination of Appropriate Mixes for the Construction of Low Cost Houses in Pakistan
- Chemical Analysis of Reinforced Soil
- Modeling of Infill Walls
- Relationship of Learning Styles of Engineering Students with Scanning Information in Texts [Candidate: Asmara Shafqat, Supervisor: Dr. Fatima Rehan Dar]
- Gender Discrimination in English Textbooks and Teacher Mediation [Candidate: Tariq Aziz, Supervisor: Dr. Samra Javed]
- Difficulties in Implementing Learner-Centered Approach in Tertiary ESL Classrooms: Experiences of ELTs in Karachi [Candidate: Farhana Yasmeen Qadri, Supervisor: Dr. Hina Hussain Kazmi]

- Teaching Essay Writing: Practices at HSC / Intermediate Level in Karachi [Candidate: Syed Waqas Ali Naqvi, Supervisor: Dr. M. Fareed]
- Analyzing Facebook English of Karachi Youth [Candidate: Farah Anbreen, Supervisor: Ms. Rahila H. Anwar]
- Problems, Practices and Coping Strategies of Teaching Speaking Skills at Tertiary Level [Candidate: Shagufta Yasmeen, Supervisor: Dr. M. Fareed]
- Improving Tertiary ESL Readers' Comprehensive Performance and Skills through Explicit Strategy Instruction: A Quasi Experimental Study [Candidate: Alaina Khan, Supervisor: Dr. Imran Khan]
- Adapting the Grade Nine Textbook of English Compulsory to Make Provision for Communicative Language Teaching Approach in Language Learning Classrooms at Public Schools in Sindh [Candidate: Asma Sadiq, Supervisor: Ms. Hina Manzoor]
- Studying the Phonemic Variations in English Vowels by the Native Speakers of Pashto and Sindhi Language [Candidate: Ibrahim Gul, Supervisor: Dr. Nasir Abbas]
- Using Authentic Materials to promote and improve listening and speaking skills of the ESL Learners [Candidate: Iqbal Hussain, Supervisor: Mr. M. Asim Khan]
- Perceptions of English Language Teachers and Students towards the Use of Computer Mediated Communication Tools in Language Teaching in Public Sector Universities of Karachi [Candidate: Munir Masih, Supervisor: Dr. Natasha Memon]
- Relating Personality Types and Writing Skills of Tertiary ESL Learners [Candidate: Adnan Ahmed Khan, Supervisor: Dr. Sajida Zaki]
- Motivation and Attitude of English Language Learners towards Learning English as a Second Language [Candidate: Alia Faruqi, Supervisor: Dr. Sajida Zaki]
- Strategies and Practices Fostering Learners' Autonomy at Intermediate Level in Pakistan [Candidate: Rukhsana, Supervisor: Dr. Hina H. Kazmi]
- Tertiary ESL Learners' Language Identity Motivation and Investment for Learning English Language [Candidate: Shazia Mushtaque, Supervisor: Dr. Sajida Zaki]
- ESP Teaching Practices at Tertiary Level in Pakistan [Candidate: Rehmat Ali, Supervisor: Dr. M. Fareed]
- Low Noise Amplifiers for RF Applications
- Design & Optimization of Current-Mode, Mix-Mode & Voltage Mode Continuous Time Filters & Oscillators
- Design, Analysis & Applications of Efficient Cascaded Multilevel Inverter for Hybrid PV-Wind Generation
- CIU-Trucking, Pakistan Sustainable Transport Project
- NRPU project: Predicting traffic congestion in Karachi through Artificial Techniques
- Modeling, Performance Analysis and Optimization of
- Modular Multilevel Converters (MMC) based VSC-HVDC Systems
- Framework for an Energy Efficient wireless heterogeneous Network
- Novel Multi-modal Biometric System Design using Intrinsic Modalities
- Improvement in efficiency of solar generation and its
- Maximum utilization for domestic users
- Development of a Multi-channel Nanosensor Based Portable Wireless Device for Diagnosis and Detection of Analytes in Human Blood
- The optimized implementation of efficient control algorithm for solar micro grid in Pakistan
- Modelling and Implementation of Assistive Robotic System for Process Industry
- Development of Smart RFID based Reader Systems for generous application

- Android Based Location Identifier & Obstacle Avoiding Autonomous Robot Using Fuzzy Logic
- Temperature Dependent Electrical
- Characterization of Scotty Diodes
- Design and Implementation of autonomous Robot with Swarm Intelligence For Multicolour object detection and placement
- Parameter Optimization of Electro Discharge Machining on Aero-Space Alloys with different Electrodes Materials.
- Process Control System Development.
- Sustainability Evaluation and benchmarking of household products Manufactured in Pakistan
- Evaluation of accuracy/Repeatability of parts produced by Dimensional Printing Process
- University is working with Midas Safety Pvt Ltd on project "High Performance Nano-composite Coatings".
- Simulation of an ICE with intake & exhaust manifold through CFD
- Design of Crankshaft for Tractors
- Design of a Magnetic Suspension System
- Design of a monocoque body for a passenger vehicle
- Aerodynamic Analysis of a Vehicle through CFD
- Parameter Optimization of Electro Discharge Machining on Aero-Space Alloys with different Electrodes Materials.
- Process Control System Development.
- Sustainability Evaluation and benchmarking of household products Manufactured in Pakistan
- Evaluation of accuracy/Repeatability of parts produced by Dimensional Printing Process
- Design of automated egg candling machine
- Design of an electric cooling & heating unit using peltier Device
- Commercial ultrasonic sifter
- Solar desalination plant for the purification of water
- Designing of high quality food-grade black salt manufacturing facility at hub pak salt refinery
- Internet of food
- Use of microencapsulation in food processing
- Atmospheric water generator
- Recently, one research proposal titled "Modeling of K-Electric and Design of HV transmission lines to avoid line congestion "under HEC-BC Knowledge Economy Partnership Program (KEP) has been approved with a total research grant of Rs 3.53939 million.
- Currently 06 Ph.D. projects are in progress in the area of Electrical Engineering. In addition, 16 Masters Dissertations and 04 Independent Study Projects were successfully carried out during last three years. 50 Final year project (FYPs) have been assigned to the students.
- Research groups have been re-arranged and now department has three research groups i-e Smart Grid, Information Visualization and Distributed generation. Strong and meaningful collaboration has been established with K-Electric, it will be highly beneficial to the students and the faculty members.
- Smart Grid Laboratory and Digital Signal Processing Laboratory acquired budgets of 84.440 Million and 0.700 Million respectively for their installation and up-gradation from Mega – IV.

- Moreover, development budget of 84.440 and 0.700 Million has been approved for the up-gradation of Smart Grid and Digital Signal Processing Laboratories from University Mega – IV Projects.
- Prof. Dr. Mirza Mahmood Baig, Chairman/Professor has published seven research papers & supervised two Independent Study Projects & supervised Mr. Fareed Ahmed Ph.D. research scholar CS&IT department as consultant specialist.
- Dr. Mushtaque Hussain, Assistant Professor has published one research paper & supervised two Independent Study Projects.
- Dr. Muhammad Jamil, Assistant Professor has published four research papers & supervised three Independent Study Projects.
- Dr. Azam Khan, Assistant Professor has published two research papers.
- Assessment of Inelastic Dynamic Response of Block Masonry Infill RC Frames
 - In order to obtain reliable predictions of the seismic performance of existing buildings or to carry out an optimum earthquake resistant design of new buildings for an anticipated earthquake ground motion scenario, it is vital to understand the factors influencing the inelastic dynamic response of the buildings. Recent studies have shown that one of the key factors that influence the dynamic response of buildings is presence of infill walls which are embedded in the skeleton of the reinforced concrete (RC) frames. Conventionally, infill panels are considered as non-structural elements and their contribution is ignored in the seismic design and assessment process of buildings. However, the presence of masonry infill walls enhances the stiffness & strength of building at story and global levels, thereby attracting larger inertial forces in the event of an earthquake. This may result in the premature failure of the key structural components of the building or, in some cases, complete collapse of the building.
 - This project investigates the influence of infill walls which are made cement concrete (cc) blocks on the inelastic dynamic response of RC buildings. The infill frames will be subjected to shake table tests will to obtain the required data. These facilities are available at the Department of Earthquake Engineering at NED University of Engineering and Technology. Experimental testing will be augmented by numerical modeling. Simplified models to represent the influence of masonry infill walls on the inelastic response of the frames will be developed which will serve as an aid to the practicing engineers.
- Development of Fragility Curves for Karachi Bridges
 - This research is to set forth the basis for developing fragility curves that can be used in various ways as part of a seismic vulnerability analysis methodology for highway bridges. The vulnerability assessment of bridges will be beneficial to the disaster management agencies of the country and will allow the development of useful information regarding evacuation maps, seismic retrofitting decisions, disaster response planning, estimation of direct monetary loss, and evaluation of loss of functionality of highway systems. Prof. Sarosh Lodi, and Prof. Rashid A. Khan are supervising the project.
- Capacity Building for Pakistan in Fire Risk Management
 - Civic agencies in Pakistan lack any preparedness to deal with the aftermath of fire in a building. As a typical example, the cases of fires in Ali Enterprises (a garment factory) in Karachi and a shoemaking factory in Lahore in September 2012 can be presented here. These factories caught fire on 11 September 2012; these are considered to be the worst incidents of industrial fires in Pakistan's history. More than 300 people died and 250 people were injured due to these incidents. One key challenge in mitigating

fire hazard in Pakistan is the absence of studies related to fire risk management and necessary mechanisms for fire damage assessment of buildings. This research addresses this gap in the knowledge and deals with an urgent need of communities in Pakistan. This project is aimed at capacity building of academia, public and private sectors in Pakistan and at technology transfer in the area of fire risk management. The objectives of the work are as follows.

- Carryout a fire hazard and vulnerability analysis to evaluate risk to communities in Pakistan
 - Compilation of extensive literature of models related to post-fire assessment of building structures prevalent in the developed world and adapting these in an incremental fashion depending on the existing expertise. Implementation mechanisms of adapted models will be developed in order to get a complete picture of fire affected regions of the building.
 - Establishment of thermal properties of local construction materials.
 - Developing standards for monitoring thermal properties of materials at elevated temperatures.
 - Development of a curriculum at post-graduate level for universities in Pakistan.
- The Department of Computer & Information Systems Engineering is actively working on many diverse projects. Following is a list of few of them
 - Water Resource Management for Agricultural Areas of Pakistan
 - Mote Design for Weather Station
 - Design and Development of Internet of Things (IoT) Enabled Devices for Smart Homes
 - RFID based access control system
 - Smart Safety Vest Design
 - Patient Monitoring System
 - Smart Pill Reminder
 - Document analysis using Mobile devices

3. Publications

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31. Dr. Saeed U. Ahmed is part of the research with School of Geography and Planning, Cardiff University UK, as the country collaborator and researcher for Pakistan. The

research titled; Economic recovery in post-conflict cities; role of informal economy, is a DFID-ESRC funded project that will run for 30 months and involves five different cities including Karachi as the case study.

32. Dr. Muhammad Jamil, Assistant Professor, attended "Third National Conference on Space Science & Technology" at Institute of Space & Planetary Astrophysics (ISPA), University of Karachi, Karachi-75270 on October 5-6, 2015.
33. Dr. Muhammad Jamil, Assistant Professor attended "1st International Material Engineering Conference, NED University of Engineering & Technology, Karachi, 14th and 15th December, 2015.
34. Dr. Muhammad Jamil, Assistant Professor, attended 1st International Conference on Recent Advances in Pure and Applied Mathematics (RAPAM' 16) at Quaid-e-Awam University of Engineering, Science and Technology, Nawabshah, Sindh, Pakistan on 21-23 January 2016.
35. Dr. Kamran Zakaria, Assistant Professor, attended a seminar on "Simulation and modelling of engine" on 11-03-2016 at Automotive Department, NED.
36. Dr. Kamran Zakaria, Assistant Professor attended one day conference on "Education", 27-03-2016 at Dr. Abdul Qadeer Khan Auditorium, Federal Urdu University.
37. Dr Sajida Zaki "Profiling organizational culture of different sectors in Pakistan." Business Review-[IBA Karachi], Vol.10, Number 1, June 2015,pp 31-46. HEC Recognized Y Category Journal
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45. Dr. Farooq Hassan (Master Journal List, ISI-Thomson Reuters): "American Muslim Minorities: Victims of Islamophobia of a Pluralistic Society in the 21st Century" International Journal of Academic Research 7 (3), 11-17.
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49. Dr. Farooq Hassan "Promotion of peace and Eradication of terrorism in the prophetic tradition of Muhammad (PBUH)" , Al-Tafseer, Majlis al Tafseer, University of Karachi, 8 (24), 54-70.
50. Dr. Imrana Durand Line: A legacy of Colonial Rule, published in "Historicus Journal" by Hamdard Foundation Pakistan; 63(4) 35-54.
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4. Conferences, Seminars and Workshops held at NED University.

a. International Conferences held:

1. Technical Training Session for Mid Land Oil Company Participants, Iraq.

To strengthen the existing knowledge regarding key sectors of Petroleum Industry among Iraqi Nationals from Mid Land Oil Company (Iraq), Pakistan Petroleum Limited Asia (PPL Asia) joined hands with NED University of Engineering and Technology under the already existing strategic alliance between PPL and NEDUET to offer "Refresher Course for Iraqi Nationals". The programme was designed with an aim to impart and implement and boost existing trends in Petroleum Industry

through a two (02) weeks refresher course in Nine (09) major areas of Petroleum Industry. This course was started on 21st July 2015 and ended on 1st August 2015. The main purpose was to provide value addition to selected candidates.



2. Seminar on “Unconventional Hydrocarbon Resources”



To share the expertise of exploration, development and production of unconventional resources among the Academia, the Norwegian Centre of Excellence in Petroleum Studies- Department of Petroleum Engineering, NED University of Science & Technology organized the One day Seminar on “Unconventional Hydrocarbon Resources” on 07th October 2015 in Department of Petroleum Engineering, NEDUET. The seminar objective was to accelerate the research activities associated with exploitation of unconventional resources of Pakistan as unconventional resources like Shale gas, Shale Oil, Gas Hydrates and Coal Bed Methane can play an important role in reducing the prevailing severe energy crises. The seminar was attended by the students and faculty of NED University of Science & Technology & Dawood University of Engineering & Technology.



3. Workshop on Advances in Petroleum Studies

The Norwegian Centre of Excellence in Petroleum Studies, Department of Petroleum Engineering, NED University of Science & Technology organized the one day workshop on "Advances in Petroleum Studies" on 28th October 2015 in Department of Petroleum Engineering, NEDUET. The workshop was the continuation of series of seminar and workshop to be conducted under the umbrella of Norwegian Centre of Excellence in Petroleum Studies. The workshop aims to impart the knowledge and expertise among different academia of Pakistan and capacity building of young engineers. The workshop was attended by the students and faculty of NED University of Science & Technology & Mehran University of Engineering & Technology, Jamshoro.



4. Training on Well Testing Interpretation

One day Hands- on training on Well Testing Interpretation was arranged for Final year students of Petroleum Engineering Department on 12th November, 2015. It was conducted by alumni of our Department, Mr. Muhammad Shoaib. He has recently completed his masters from Politecnico di Torino, Italy. He shared his knowledge regarding well test interpretation which will help in capacity building of our passing out students.



5. Petrophysics and Reservoir Simulation Studies

A hands-on training on Interactive Petrophysics Software was organized by Department of petroleum engineering under President's Programme for Care of Highly Qualified Overseas Pakistanis (PPQP) in Norwegian Centre of Excellence in Petroleum Studies from 14th to 25th December, 2015. The Training was conducted by Dr. Amjad Ali Shah, University of Portsmouth, UK. The training is divided in two parts. The first part was arranged for the faculty members and final year students of batch 2011-12. The second part was arranged for the industry professional from December 22 to 23, 2015, in which representatives from PPL and Eni Pakistan have actively participated. This was a two day training workshop in which the certificates were also distributed. The training was very much effective and appreciated by all the participants.

6. Special Lecture on "Enhanced Oil Recovery Techniques"

Dr. Syed Muhammad Tariq is an alumnus of NED University with over 35 years of rich experience of Petroleum Industry. He delivered a special lecture to the Petroleum Engineering students on 17th March 2016 on "Enhanced Oil Recovery techniques". He discussed the various methods used for improving recoveries of reservoirs in the Petroleum Industry. His main focus was on providing the basic knowledge about all the methods of EOR and how a particular EOR method is selected for a field. The students were also very interactive and posted several questions towards Mr. Tariq. It was overall a very useful & informative session for all the students.

7. Special Lecture on "Petroleum and Energy Engineering; an Interdisciplinary Approach"

An informative session of Dr. Amjad Shah, Lecturer University of Portsmouth, UK on "Petroleum and Energy Engineering; an interdisciplinary approach" was organized on 05th April 2016 in NEDUET main auditorium for the students of NEDUET and Dawood University of Engineering & Technology under existing linkage between NEDUET and Portsmouth University, UK. Dr. Amjad Shah provided an overview of the various novel areas of research in Petroleum & Energy Engineering and the integration of petroleum and other disciplines. A total of three hundred students of Petroleum Engineering Departments of NEDUET and Dawood University attended the sessions of Dr. Amjad Shah.

8. International Conference On:

○ Advanced Technologies & Development Strategies for Economic Exploitation of Unconventional Hydrocarbon Resources of Pakistan and the Region

The newly established Norwegian Centre of Excellence in Petroleum Studies (NCEPS), at Department of Petroleum Engineering, NED University of Engineering and Technology is organizing a two days International Conference under the theme "Advanced Technologies & Development Strategies for Economic Exploitation of Unconventional Hydrocarbon Resources of Pakistan and the Region.". It is scheduled from 30th to 31st May, 2016 at Serene Hotel, Islamabad.

The ICOUR-1 aims to bring the most knowledgeable researchers, practitioners, leaders in the industry, and policy makers from public sector organizations and academicians from all over the world, to discuss and recommend best practices and recent developments in unconventional resources for securing Pakistan's future energy demand.

○ **Innovation & Advances in Electrical Engineering**

IEP Karachi Centre and NED University of Engineering and Technology, Karachi (Electrical Engineering Faculty) are jointly organizing the 1st International Electrical Engineering Congress in May 2016. The 1st International Electrical Engineering Congress will be a 2 days event, spread over an inaugural and technical sessions on the 13th and 14th May 2016. The conference invites people locally and all around the world to share and discuss on innovation and advances in Electrical Engineering. Authors are invited to submit original technical papers for presentation and publication. All accepted and presented papers will be published in IEEC proceedings. The extended versions of the selected papers will be published in NED journal of research.

9. 5-Day Interactive Exam Preparation Course on Project Management Professional (PMP) for Engineers May 8, 15, 22, 29 & June 5, 2016.
10. Hands-on Training Workshop on "Building Information Modeling", 13, 14, 20, 21, 27 & 28 May 2016.
11. 4-Day Hands-on Training Workshop on Computer Aided Project Management with Microsoft Project® 2016, on 13, 14, 20, 21 May 2016.
12. 2-Day Interactive Workshop on Contracts, Claims & Disputes, May 20-21, 2016.
13. Two Day International Workshop on "Energy Efficient Building Design for Comfort, Economics & Climate Change", 4-5 April, 2016.
14. Zafar Razzak Memorial Lecture Series, 2nd Lecture: "Recent Advancements in Strengthening and Retrofitting of Structures", March 28, 2016.
15. 4-Day Hands-on Training Workshop on Computer Aided Project Management with Primavera P6, 25 & 26 March, 1 & 2 April, 2016.
16. Two Day Interactive Exam Preparation Course on "Project Management Institute's Risk Management Professional (PMI-RMP)", 5-6 March 2016.
17. 2-Month Postgraduate Certificate Programme "Becoming a High Impact Leader in Engineering Organizations", Feb 29 – May 04, 2016.
18. 2 Day Workshop on "Construction Cost Engineering & Control", February 26-27, 2016.
19. 2-Day International Workshop on "Outcome Based Education (OBE) System", October 27-28, 2015.
20. One Day International Workshop on "Leadership Development for Engineers and Technical Managers", 19th September 2015.
21. 1-Day International Workshop on "Career Growth in the Fast Changing World", September 8, 2015.
22. Zafar Razzak Memorial Lecture Series, Inaugural Lecture: "Structural Design Practice in Pakistan", September 1, 2015.
23. 7th International Civil Engineering Congress, "Sustainable Development through Advancements in Civil Engineering, 12-13 June 2015.

24. Strategy and Roadmap for Energy Efficient Buildings and Smart Cities in Pakistan" March 08, 2016, jointly organized by NED University of Engineering & Technology, and the ministry of Federal Education and Training, Government of Pakistan, under President's Programme for Care of Highly Qualified Overseas Pakistanis (PPQP). (Attended by 45 professionals from 20 different organizations.)
25. Two-Day Workshop on "Cost Engineering and Control"- February 26-27, 2016, Department of Civil Engineering, NED University.
26. One Day CPD Seminar titled "Entrepreneurship and Basic Supervision of Construction Projects" held on 10th February 2016 at NED University of Engineering & Technology, Karachi, organized by Pakistan Engineering Council (PEC).
27. 70 Years Commemorating Events of 1945 Makran Tsunami; "International Conference on Step towards Tsunami Resilience" held at Marriott Hotel Karachi, Karachi, on November 28, 2015, in collaboration with OXFAM GB and UNESCO.
28. 70 Years Commemorating Events of 1945 Makran Tsunami; "2-Day Workshop on Tsunami Inundation Modeling" held at Department of Civil Engineering, NED University of Engineering & Technology, Karachi, on November 26-27, 2015, in collaboration with OXFAM GB and UNESCO.
29. 2-Day International Workshop on Outcome Based Education System (OBE), Improving Education Deliverance and Attainment Standards through Transforming Academic Institutions towards OBE system, October 27-28, 2015, NED University of Engineering & Technology, Karachi, jointly organized by NED University of Engineering and Technology, DHA Suffa University, and Pakistan Engineering Council (PEC).
30. 7th International Civil Engineering Congress (ICEC-2015) "Sustainable Development through Advancements in Civil Engineering" June 12-13, 2015, Karachi, Pakistan, jointly organized by NED University of Engineering and Technology, Karachi and Institution of Engineers Pakistan (IEP).
31. Half day seminar on "Strengthening & seismic retrofitting of RC and Masonry structures with FRP and TRM behavior and design"; March 29, 2016. IEP convention center-Karachi jointly organized by Department of Civil Engineering NED UET, Institute of Engineers Pakistan (IEP), Pakistan Engineering Council (PEC) and University of Patras.



32. 02-Days International Workshop (17 and 18 December, 2015) on Road Safety Analysis & Modeling, organized in collaboration with President's Program for Care of Highly Qualified Overseas Pakistanis (PPQP) and Pakistan Engineering Council (PEC).



33. 01-Day International Workshop (22 December, 2015) on Traffic Microsimulation Modeling organized in collaboration with President's Program for Care of Highly Qualified Overseas Pakistanis (PPQP) and Pakistan Engineering Council (PEC).



34. One Week Training from (24 to 27 March, 2015) for Transport Officers, Traffic Police Officers, Bus Drivers and Road Users Organized by United Nations Development Program (UNDP) under Pakistan Sustainable Transport Project, Held in NED University of Engg. & Tech., Karachi.



35. Bridging gap between academia and industry, half day Seminar on Innovations in Construction Materials on 7th March 2015 at IEP Karachi building, organized by Institute of Engineers Pakistan and Construction Materials Research Group NED University



36. One Week Training from (2 to 8 Dec, 14) for Transport Officers, Traffic Police Officers, Bus Drivers & Road Users Organized by United Nations Development Program (UNDP) under Pakistan Sustainable Transport Project, Held in NED University of Engg & Tech., Karachi



37. Training for Trainers Program Organized by Sindh Technical Education & Vocational Training Authority (STEVTa) from 10th November to 1st Dec. 14 in NED University of Engg. & Tech., Karachi.



38. Workshop on Golden Hour On World Day of Remembrance for Road Traffic Victims in Pakistan, organized by National Environmental Education and Health Monitors (NEEM) on 23rd November 2015 at NED University.
39. Awareness raising campaign by International Union of Conservation of Nature (IUCN) under Pakistan Sustainable Transport Project (PAKSTRAN), August- September 2015.



40. Half day seminar on Challenges and Opportunities for Pakistani Cities Towards Sustainable Transportation Systems addressed by Mr. Enrique Penalosa, (President of the Board of Directors of the Institute for Transportation and Development Policy (ITDP) Ex-Mayor, Bogota, Columbia) on 27th March 2015 in Video conference hall, NED University of Engineering & Technology, Karachi
41. Half Day Consultative Workshop on Defining Roles of Stakeholders in Delivering Road Safety and Security Education on Saturday the 21st February, 2015 at 10:30 am to 2:00 pm at IEP Convention Center, 5th Floor, IEP Building, Shahrah-e-Faisal, Karachi, Opposite: Hotel Regent Plaza in collaboration with United Nation Development Program (UNDP) under Pakistan Sustainable Transport (PAKSTRAN) Project and Institute of Engineers Pakistan
42. Consultative Workshop on Sustainable Urban Transport under PAKSTRAN Project held on 11th September 2014 at NED University
43. Department of Chemical Engineering in collaboration with Polymer & Petrochemical Engineering Department of NED University of Engineering & Technology organized two days "International Conference on Advanced Materials & Process Engineering" on December 14-15, 2015, at NED University.
44. International Conference on Advanced Materials and Process Engineering 14 & 15 December, 2015
45. IEEE PES Events 2015, Career Counseling Seminar, Date: 26th January 2016, Venue: CIS Lecture Hall, NEDUET
46. Spark'15, Date: 30th March 2015, Venue: Civil AV Hall, NEDUET
47. Industrial Visit, Date: 2nd September 2015, Venue: Bin Qasim Power Station-I
48. Power System Design Workshop, Date: 9th September 2015, Venue: Civil AV Hall, NEDUET

49. Quality Control Workshop, Date: 17th March 2016, Venue: Civil AV Hall, NEDUET
50. Industrial Visit, Expected Date: 1st April 2016, Venue: Pakistan Cables
51. Electrical Designing Seminar from NESPAK, Expected Month: April, Venue: CIS lecture Hall
52. Spark'16, Expected Month: July, Venue: NEDUET
53. IEEE Week, Expected Month: August, Venue: NEDUET
54. SENTEC Project Exhibition Event, Dated: 11 - 12 August 2015, Venue: Main Auditorium NED UET.
55. IMPULSE Recruitment Drive 2015, Dated: 8th April 2015, Venue: Electrical Lecture Hall
56. IMPULSE Kahaniyan, Dated: 22nd September 2015, Venue: Electrical Garden
57. Department of polymer & petrochemical engineering has arranged a series of seminar on "Polymer Rheology and its effect on processing and simulation" and nanocomposite characterization", presented by Dr. Ghuas Rizvi, Associate Professor, Department of Automotive, Mechanical and Manufacturing Engineering, Faculty of Engineering and Applied Science, University of Ontario, Canada.



58. Department of polymer & petrochemical engineering and department of chemical engineering has arranged a 1st international conference on "Advanced Material and Process Engineering" on 14th and 15th December 2015.



59. A seminar on "Rubber Technology" has been arranged in collaboration with General Tires and Rubber Industry, presented by Mr. Abid Raza on 26th February 2016.



60. Dean (MME) arranged 2nd NED International Textile Conference (NEDITC 2016) was organized by Textile Engineering Department. It was held on 17th & 18th February 2016 at NED University Auditorium. The conference was attended by more than 200 participants representing different industries, academia and other organizations.



61. Dean (MME) arranged DICE Energy 2015 Symposium/ Competition/ Exhibition was held on 22nd & 23rd December 2015 at NED University Auditorium.
62. Seminar on "Energy Auditing and Conservation" on Monday 12th October, 2015.
63. Career Seminar organized by the department in September 2015; in this seminar, graduates working at key positions in textile industry were invited to motivate the students towards the career in different areas of textiles.
64. Career Fair was organized by the department in October 2015; professionals from different industries were invited to conduct the interviews of the final year students. As a result of this exercise half of the batch was employed by December 2015.
65. A seminar was organized by textile department in June 2015 along with the Textile Ministry at Textile Commissioner office on the topic of Energy management in Textiles; 35 participants from different textile industries and government officials attended the seminar.
66. A seminar was organized by textile department in December 2015 in collaboration with the International Geo-synthetic Society Pakistan Chapter on the topic of Geo-textile manufacturing and application; 35 participants from different textile industries and government officials attended the seminar.
67. 2nd NED International Textile Conference (NEDITC 2016) was organized by Textile Engineering Department. It was held on 17th & 18th February 2016 at NED University Auditorium. The conference was attended by more than 200 participants representing different industries, academia and other organizations.
68. 31st SPELT International Conference: ELT Traditions and Innovations - 9 MS students presented their research papers.
69. Paper presentation at 1st International Conference of the Linguistic Association of Pakistan, at Kinnaird College Lahore by Ms. Almas Ashraf
70. 5 days training session on "ERP Fundamentals with SAP" was conducted on 7th Dec to 11th Dec, 2015
71. 1 month training course on "Sense and Move things with Arduino" was conducted on 6th Feb to 6th March, 2016
72. Agile Project Management" Seminar organized by NED Entrepreneurship Society on 21st December 2015 at Polymer Lecture Hall NED University of Engineering & Technology- Seminar arranged on a collaborated effort from Microsoft Pakistan and NED Entrepreneurship Society. Agile Project Management is all about planning, managing and execution. Official Microsoft community Speaker MUHAMMAD NAVEED ZAFAR conducted the session on Agile Project Management (SCRUM) and provided free access on different software.
73. Centre of Innovation, Entrepreneurship, Technology, Incubation & Commercialization in collaboration with NEN, Wadhvani Foundation and MIT Enterprise Forum of Pakistan (MITEFP), has arranged series of Workshop on "Ideation & Opportunity Analysis" in

February'16 with session expert Mr Bilal Qureshi ,Mr Kanwal Masror and Mr. Omer Javaid .The "Ideation & Opportunity Evaluation" workshop helped students to ideate better, enhance the quality of their ideas, and find partners who can help bring those ideas closer to the entrepreneurial potential.

74. CINETIC - Office of Research, Innovation & Commercialization has organized one day workshop with Plang "Pitch makes Perfect" on 29th of February'16 in CINETIC Office. The purpose of conducting workshop with Plang to refine the student's Communication, presentation and soft skills required for pitching.
75. Event "Kickstart Your Business Online in One Hour", organised by NED Entrepreneurship Society" under collaboration with ORIC on 18th March 2016
76. Workshop on "Freelancing from Scratch" organised by NED Entrepreneurship Society" under collaboration with ORIC on 11th April 2016.
77. Dr. Muhammad Ali Ismail"Parallel Implementation of Morphological Image Processing Algorithm for GPGPU"Recent Advances in Computer systems (RACS-2015)"30th Nov. - 01 Dec. 2015"Hail, KSA.
78. Mehwish Raza"Outlier Detection Techniques in Wireless Sensor"1st International Conference on Dependable"1-Jan-16"MUET, Jamshoro, "Networks – A Survey"Embedded Wireless and Sensing Networks 2015"
79. First Pak-German Workshop on Smart Irrigation was organized in collaboration with German Research Centre for Artificial Intelligence where faculty and researchers from national and international organizations participated. The department is currently working to hold an International Multi-topic Conference of Computer and Information Systems Engineering in coming months.
- 80. NED City Campus as ICOMOS National Secretariat**
The department functions as National Secretariat of International Council of Monuments and Sites (ICOMOS). Dissemination of information, management of membership profiles and other activities were routinely coordinated. Ms. Farida Abdul Ghaffar and her colleagues in Heritage Cell coordinated various activities.

81. 7th Islamic Architecture Workshop

The 7th Islamic Architecture Workshop was held between 22nd February to 25th February 2016. It was conducted by well-known architect Mr. Taimoor Khan Mumtaz of Anjuman-e-Maimaran Lahore. Architects and students conducted field work and analysis of pre-identified heritage structures in Karachi in detail. Architects Shahab Ghani Khan and Arif Changezi were the Guests of Honour at the closing ceremony. The History Group of the Department constituted the organizing team.



82. IAP Exhibition

12th Architectural Exhibition was held during 22-24 April 2016. The event was organized by Institute of Architects Pakistan. The department and its staff participated in this event in a major way. A dedicated stall was set up at the venue contain the department work and student portfolios.

83. Eleventh Seminar on Urban and Regional Planning (URP) held on 25-26 March 2016 at City Campus Auditorium

The eleventh seminar on Urban and Regional Planning was held on 25 and 26 March 2016 at NED City Campus Auditorium. The theme of the seminar was "Planning and Institutional Arrangements". After tilawat, Professor Dr. Noman Ahmed, welcomed the delegates. He gave brief background of the past seminars and the intellectual output generated from each event. Professor Paul Taylor from Cardiff University in UK was the keynote speaker. Chief Guest on the occasion was Dr Ishrat Hussain, Dean and Director, Institute of Business Administration Karachi. Prof. Dr. M. Afzal Haque, Vice Chancellor of NED University, presided the inaugural session. On 26 March several papers were presented. Speakers included Mr Fazal Noor of Sir Syed University, Ms Anam Rafiq, Mr Abid Rehman, Mr Farhan Anwar, Mr Nauman Aqil and Mr Shahid Khan. Panelists included Mr Fahim Zaman Khan, Dr Nausheen Anwar, Ms Suneela Ahmed and Mr Fazal Noor. 'Karachi: From the Prism of Urban Design', a book written by Noman Ahmed, Asiya Sadiq, Suneela Ahmed and Masooma Shakir was also launched.



84. Visualizing Cities – Workshop

Tentative Collective, a group of visual artists based at City Campus, organized a three day workshop for students of architecture and development studies between 31 March – 02 April 2016. A summary of the event is appended as Annexure-01.

85. 'Saving Shikarpoor's Heritage'

Three day seminar, exhibition and field event February 2016.

This department collaborated with the World Monument Fund in New York and Endowment Fund Trust for Culture, Government of Sindh to organize the above event at Shikarpoor. It had an outstanding participation of architects, scholars, students and people from all walks of life. The inaugural event was held on 04 February 2016 in a heritage building now declared a protected asset. Mr Mazhar-ul-Haque Siddiqui, former Vice Chancellor University of Sindh was the Chief Guest. Mr. Abdul Hameed Akhund, Former Secretary Culture and Managing Trustee, EFT gave the opening remarks. Prof. Dr. Noman Ahmed apprised the audience about the background of the seminar and heritage related initiatives undertaken by DAP-NED. Prof. Dr. Anila Naeem gave her presentation

on the topic. Many papers on different dimensions of Shikarpoor's heritage were presented. About 35 students of architecture from NED and many students of local educational institutions were among the participants. NED students also undertook detailed documentation of five heritage properties of the city which were exhibited on CK Das College – venue of the moot. Plaques were also installed on the designated heritage structures in the town. A city walk was conducted under the protection of city administration. A detailed guided tour of the historic locations of Shikarpoor and Jacobabad was undertaken during the following days.



86. AIPS City Forum

American Institute of Pakistan Studies (AIPS), University of Austin at Texas collaborated with NED Architecture and Planning Department to host an urban forum during 4 – 6 January 2016. Prof. Dr. Kamran Azdar Ali was the key facilitator along with Prof. Dr. Noman Ahmed. Detailed programme of the event is appended as Annexure-02.

87. SEEDs – NED Symposium

A symposium on the topic of 'Heritage for Youth' was held on 13 May 2015. Noted architects and activists attended the event. Some mentions include Mr Tofiq Pasha Mooraj, Khaula Jamil, Favad Soomro of Engro Foundation and Ms Sadaf Mahmood of SEEDS Venture.

88. 'Aiming for Flow – Design Workshop

With the assistance of Higher Education Commission (HEC), the department invited Architect Carlos Marquez from University of Lincoln UK to conduct the above workshop for final year students. Intense studio sessions, lectures, presentation were organized during his stay from 10 to 20 September 2015.

89. School Building Workshop in Sindh's Villages - Volunteers for Zero Carbon Footprints At Moak Sharif, Tando Allahyar.

25 October 2015 – 01 November 2015

Under the supervision of a Ms Farida Abdul Ghaffar - Lecturer, a group of 22 students of 4th Semester Architecture was taken to Tando Allahyar for a workshop on Zero Carbon Footprint organized by the Heritage Foundation. One week Workshop began on 25th

October 2015 in Moak Sharif in Tando Allahyar when the Manager Heritage Foundation, Mr. Naheem Shah and field worker Ms Sumera conducted an orientation session for the participants. In this workshop, participants were taught the techniques of constructing structures which have zero carbon footprints on the earth. They were taught and trained for how to use local materials and techniques to erect structures' safe for usage. The group was split into two and each group was given a site in nearby villages namely Bukera and Yousaf Nahio. Each group constructed a one room school structure (16 feet diameter and 18 feet high) using mud bricks. Workshop participants first made mud bricks themselves and erected walls on given foundation. They later on plastered the walls with lime and mud mortar. A conical shape roof with the use of bamboos and thatch was also erected by the participants who during the process learnt the bamboo joint techniques and making water proof roofs with thatch and other organic materials readily available at site. Participants were also trained for how to fix door and window frames in walls and install lintels made of bamboos. During the Workshop, Ms Yasmin Lari, Director Heritage Foundation visited the villages to inspect the work of Workshop participants and to have a dialogue with students about Eco Village and zero carbon foot print construction techniques. Students also had an opportunity to work on bamboo shelters designed by Heritage Foundation for the relief work in Chitral which was hit by an earthquake during the same period. Such folding bamboo shelters were later on replicated in Chitral.

90. Academic Activities and Supporting Faculty Groups
History Group

The History Group was established in 2007, as a collective forum to promote scholarly research and exchange in architectural history, architectural theory and criticism, philosophy, pedagogy, cultural theory and visual culture studies. The History Group activities are being carried by the current six core group members through team work. The members are Fariha A. Ubaid - Advisor and Sr. Coordinator, Fahmida Shaikh, Rabela Junejo, Sarah Ather Khan, Rahat Arsalan and Safia Asif.

A total of nine events were held during session 2015-16. These include 3 lectures, 2 history related trip (in the interior of Sindh), 1 workshop and 1 exhibition of student works under AR-212 including a display of Historical themed Product (poster, documentary). All of these activities were self-financed and well received by students, faculty, professionals, dignitaries and intellectuals in the city.

During the event on Islamic architecture workshop by Mr Taimoor Mumtaz, several related sessions were also conducted. Public lecture on "Music and Architecture" was particularly engaging as Mr Asif Sinan who plays guitar as sitar, mesmerized audience with his classical beats. The proportions that are in the sa re ga ma pa of music likewise occur in architecture marrying the two different mediums of art.

Meanwhile, active links and networks were maintained with eminent historians, archeologists, architects, planners, designers and historical societies. Research and scholarship was enhanced as the group continued to mentor, encourage and facilitate faculty members in enhancing research and graduate study on historical themes.

91. Design Studio Group

The design studio group DSG is working as a platform for discussions on all aspects of studio teaching. This group meticulously exams the design projects planned per semester. DSG arrange timely meetings for faculty discussion, these meeting clarify ambiguities and wide open new arenas of ideas.

Portfolio evaluation is conducted at the end of semester. This help to analyse the overall quality of work. It is judged on the bases of good, average and below average quality of work. This evaluation session also aims to showcase the potentials and weaknesses of students to the faculty members, who will be conducting the studio in upcoming semester. This helps them to design the project briefs accordingly.

92. Digital Architecture Group (DAG)

Digital Arch Group was founded in 2007 by a Group of faculty members, teaching computer graphics in Department of Architecture and Planning at NED University of Engineering and Technology

The Objective of this group was to develop the role of Technology in Architectural Practice and Architectural Education through Research and Development. In addition to that the group also focuses in creating awareness among the student & faculty about the latest developments and settings in the software world & also the upliftment of the hardware & its accessories. To expand this horizon we also offer consultancy services in the following fields.

- Architectural services
- Digital services
- Lectures, Trainings and workshops
- Sustainability

Regular activities included course review and appraisals for Board of Students (related to digital aspects of architecture), participation in IAP events and organization of workshops for the benefit of students and faculty. Shabnam Nigar Mumtaz, Rahat Arsalan and Safia Asif are core members of the group.

93. Heritage Cell

The Heritage Cell at the Department of Architecture & Planning, NED University of Engineering & Technology, Karachi deals with the matters related to the conservation and protection of architectural heritage. The Cell provides consultancy in the field of conservation and assists the Culture Department Government of Sindh in taking appropriate measures for the conservation of architectural heritage of Sindh, in general and Karachi, in particular.

The Heritage Cell –DAPNED also takes up various research programs in the field of conservation and facilitates various organization in pursuing the cause of heritage preservation.

94. Karachi Historic Buildings Resurvey Project:

The first phase of this project covering detailed surveys of 17 historic quarters of Karachi, completed in 2010; lead to the official notification of 1061 properties (including buildings, open spaces and urban elements) identified through this research process and recommended for inclusion in Karachi's list of protected heritage. These are in addition to the already listed 581 properties. The Department of Culture, Government of Sindh issued the gazette notification in April 2011.

The second phase of this project is still in progress - extending the surveys into historic quarters and areas of Karachi that were not covered in previous listing process. Field work for second phase commenced in September 2011 and draft reports of two quarters (i.e. Ramswami and Soldier Bazaar) were compiled and submitted to the Technical Advisory Committee in January 2012, for reviewing and on-site verification. Feedback from Technical Sub-committee on Heritage, GoS, was received and the final version of both the reports (Ramswami Quarter and Soldier Bazaar) was submitted to the Department of Culture. The Department of Culture requested the Heritage Cell to do a final review of the sites before announcing the notification of declaring the identified properties as protected heritage. Upon resurveying of the Ramswami and Soldier Bazaar Quarters, 8 properties were identified from where the structures were removed and two structures were found in dilapidated conditions. The Department was requested to remove those 10 structures from the list. A final announcement of 75 structures in Ramswami Quarter 26 structures in Soldier Bazaar Quarter was made on November 8, 2013.

The field survey of Jamshed Quarter continued in 2014-15 and data is being compiled for its submission to the Culture Department for notification.

95. Technical Reports

The Heritage Cell of DAP NED visited and prepared Technical Reports for various listed properties upon the request of Culture Department, Government of Sindh. Some properties were visited and visually documented upon clients' own requests as follows:

- Warehouse Building 15 to 17-A Berth, East Wharf, KPT
- Crown Cinema, Lyari
- Aziz Manzil, Rambagh Quarter
- Sartaj Bano Midwifery School, Jamshed Quarter
- Property Bearing Sheet RB-12 Survey No.17, (Old Survey No.F-2/15), Rambagh Quarter, Karachi
- RB-10/ 10, Babar (Ramchandra Temple) Road, Gidumal Lekhraj Road, Rambagh Quarter
- Mullica Building located on Plot No. SR-7/10/2 & 10/3 along Altaf Hussain (Napier) Road
- Plot No. RS-2/51, Ramswami Quarter

In absence of Dr. Anila Naeem (member of Technical Sub-committee of Heritage Advisory Committee, GoS), acting in charge Ar. Farida Abdul Ghaffar has been attending the issues arise from time to time and regularly participate in the Technical Committee and Heritage Advisory Committee meetings. The HC-DAPNED also has assisted the honorable Court to apprise with heritage listing criteria and process adopted.

96. Shikarpoor Project- 2016

In continuation of the ongoing Shikarpoor Heritage Safeguarding Campaign a proposal for interactive activities involving heritage property owners was submitted to World Monuments Fund towards end of 2015 incorporating three components: (1) Heritage Property Owner's Interactive Workshop/ Documentation Camp (2) Heritage Plaques Program (3) Heritage Watch Day. The Endowment Fund Trust (EFT) also became a collaborating partner and sponsor for the latter two activities. The event was executed in early 2016 - detailed report on which would be submitted incorporated in the annual report of 2016. Preparatory ground work for this project was undertaken by HC team in July 2015.

97. DAP-NED Archives and Library

The journey of Archives was initiated back in 2002, at the time of its inception it was conceived as a small thesis storage unit now it flourished as a vital repository of book and non-book material for public at large. Now a total of 14705 miscellaneous materials is available at archive (Details provided in attached Archives Summary Sheet and Bar Chart-1). This unit is working under supervision of Assoc. Prof. Fariha A. Ubaid, with team of Asst. Prof. Saadia Bano, Lecturer Sarah Ather Khan, Lecturer Safia Asif and DEO Azeem A. Khan.

A large number of visitors from different strata of society and academia are visiting Archives and utilizing its valuable resources. By and large people getting to know about our vital depository for research. Sizable number of appreciation has been received and users are also donating different materials. All the material which we receive via donation has been meticulously sorted cataloged with proper acknowledgments sent to donors.

In this era of e-referencing, we are paying our full attention to establish the e-book session. This section is short on cost but equally important and necessary.

We started to get a photocopy of valuable books and reports, share by our university colleagues. A sizable number of valuable data about the city of Hyderabad has been collected. This data can be useful in our upcoming publications on Hyderabad city.

b. Seminars

1. Training of Program Teams (PTs) and Assessment Teams (ATs) (18 February 2015)
2. Duties & Responsibilities of Class Advisors (20 February 2015)
3. Organizational Interdepartmental Communication (23-27 February & 2-4 March 2015)
4. Orientation Training-Objective 2015 of Teaching Departments (27 February 2015)
5. Orientation Training for IT Managers to implement the online E-Test Software for Mid-Semester Tests in all Undergraduate Programmes of the University (3 March 2015)
6. Training on "Health, Safety & Environment" (6-10 April 2015)
7. Training on "MATLAB" (6-8 April 2015)
8. Seminar on "Quality Assurance in Education" (17 April 2015)
9. Seminar "Infinite Mercy: Hz. Muhammad S.A.W": Mr. Mahmoud Elsayed Ibrahim Eltoukhy (Egypt), Dr. Salih Yucel (Australia), Prof. Dr. Ihsan-ul-Haq (Pakistan)
10. International Seminar "Muslim Scholars of the East: Philosophical Thoughts for the Contemporary Society" Jointly organized by Humanities Department. HEC, Rumi Forum and ERDC Karachi. Dr. Zeki Saritoprak: Professor Islamic Studies, Department of Theology and Religious Studies, John Carroll University, USA Theme: Living with Rumi: The ideas of Rumi as experienced in the Hizmet Movement

11. International Seminar "Muslim Scholars of the East: Philosophical Thoughts for the Contemporary Society" Jointly organized by Humanities Department. HEC, Rumi Forum and ERDC Karachi. Dr. Muhammad Zaid Malik: Professor & Translator, King Saud University, KSA Theme: Iqbal's Concept of Education in developing the sense of "Khudi"
12. International Seminar "Muslim Scholars of the East: Philosophical Thoughts for the Contemporary Society" Jointly organized by Humanities Department. HEC, Rumi Forum and ERDC Karachi. Dr. İbrahim Cerrah: President - Center for Legal Ethical and Political Studies (HESA) Ankara, Turkey Theme: Mevlana Jalal ad-din Rumi and Seljuk Sultans: With a special emphasis on Rumi's impact on societal and political corruption in his time Eminent Paper Presenters:
13. International Seminar "Muslim Scholars of the East: Philosophical Thoughts for the Contemporary Society" Jointly organized by Humanities Department. HEC, Rumi Forum and ERDC Karachi. Dr. Abdul Wahab Suri Assoc. Professor & Chairman, Department of Philosophy, University of Karachi Theme: Inspirational intellectualism: The limit of critical discourse in Post-colonial Societies.
14. International Seminar "Muslim Scholars of the East: Philosophical Thoughts for the Contemporary Society" Jointly organized by Humanities Department. HEC, Rumi Forum and ERDC Karachi. Mr. Khurram Ali Shafique Founder, Marghdeen Iqbal Studies Centre. Theme: Pakistan as the Emergence of 'New Human Being Dr. Zeki Saritoprak, Dr. İbrahim Cerrah, Dr. M. Zaid Malik, Dr. Suheyl Umer, Dr. A. Wahab Suri, Mr. Khurram A. Shafique, Dr. Navid Jamil Malik, Dr. Sheikh M. Ishtiaq, Dr. Maria Yousuf, Dr. A. Khaliq Aboya, Dr. S. M. Mehboob ul Hassan, Dr. H. M. Sani, Dr. M. Abid Ali
15. August 17, 2015, for one day seminar on HSE managing safely in CIS Lecture Hall, attended by All students
16. February 16, 2016, for one day seminar on Engineering Research in focus in CIS Lecture Hall, attended by All Faculty Members and students
17. Final Year (Mechanical) Batch 2012-13 students arranged a technical workshop on 09-03-16
18. On 15-03-2015 IMechE student organized a technical workshop on "Reinvent Engineering".
19. On 02-02-2016 Mechanical Engineering Department arranged a lecture on "Accessible Cycle Design Challenge" by Mr. Amir Amir Amdani, Network of Organizations Working with People with Disabilities (NOWRDP).
20. IMechE NED arranged an Orientation Ceremonies for the fresh students on 28-01-2016
21. ASME-NED arranged orientation ceremony held on 26-01-2016
22. On 21-01-2016 ASHRAE NED Student Chapter organized ASHRAE Orientation Day program held at NED Auditorium
23. On 22nd & 23rd December, 2015 Mechanical Engineering Department arranged DICE-Energy 2015, Symposium / Competition / Project Exhibition

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24. Mr. Mitchell Swann, ASHRAE, USA delivered a technical lecture in NED University on 09-12-15
 25. ASHRAE NED Chapter organized a program on ASHRAE Students Conference & Exhibition (ACE-2015) from 27th to 29th October, 2015.
 26. ASHRAE NED Chapter arranged a Workshop on Public Speaking (Season-III) on 10-09-15.
 27. ASME-NED Student organized a workshop "Basic life Support System" on 11-08-2015.
 28. Dr. Shaheena Waheed, UNIDO delivered a lecture on Renewable Energy arranged by the Department on 01-06-2015.
 29. Mechanical Engineering Department of NED University of Engineering and Technology and The Institution of Engineers Pakistan jointly organized the 5th International Mechanical Engineering Congress (FIMEC-2015) on "Energy Sustainability and Mechanical Design" held on 9th and 10th May, 2015, in collaboration with Federation of Engineering Institutions of Islamic Countries (FEIIC) and Federation of Engineering Institutions of South and Central Asia (FEISCA).
 30. Seminar on "Data Mining" by Sameet Farooq (Sr. Software Engineer - Primatics Financial).
 31. Seminar on "ERP Solutions", by Syed Muhammad Faraz (Development Lead - PointStar Group, eSided Business Solutions).
 32. Seminar on "Source Code Management & Version Controlling" by Mr. Syed Muhammad Faraz (ERP Consultant - Point Start PTE LTD, Singapore).
 33. Seminar on "Ideas to Products" by Mr. Muhammad Masroor (Technical Team Lead, EWS).
 34. Seminar on "Information Technology Sector in Pakistan" by Mr. Ashraf Kapadia (Country Manager (Pakistan) at AT&T)
 35. Workshop on "Application Development with Java" by Muhammad Umair Khan - Software Engineer (Techlogix).
 36. Workshop on "Web Development with PHP-LAMP" Manager E-Publication Bentham Science Publisher.
 37. Workshop on "Android App Development", by Ms. Yasmeen Saher (Software Engineer – Developers Sharp).
 38. 31st SPELT International Conference: ELT Traditions and Innovations – 5 MS Students have conducted Research workshops at SPELT SIG.
 39. 31st SPELT International Conference: ELT Traditions and Innovations - 5 MS Students have conducted Research workshops
 40. Dr Sajida Zaki Effective Teaching Practices Training course for faculty members NEDUET
 41. Dr Sajida Zaki "Time Management Skills" Training " for administrative staff NEDUET.

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42. Dr. Abdul Hai Madni Lecture "Role of youth in rectification of society" Ihsan Islamic university Karachi on 6th Nov.2015
 43. Dr. Abdul Hai Madni Lecture "Importance of Curriculum revision in deeni madaris" Abu Bakr Islamic University Karachi on 12th Jan.2016
 44. Dr. Abdul Hai Madni Worked as an organizing member "Infinite Mercy" an international seminar at NED university Karachi on
 45. Dr. Abdul Hai Madni Head of the academic committee and organizing member "One day international seminar on "Muslim scholars of the East: Philosophical thoughts for contemporary society. On March, 3, 2016.
 46. Dr. Muhammad Fareed: Lecture "English for Engineering Purposes" Nazeer Hussain University, on October 28, 2016.
 47. Dr. Muhammad Fareed: Lecture "English for Specific Purposes" Virtual University, Karachi Campus, on December 30, 2016.
 48. Dr. Muhammad Fareed: work shop "Providing Feedback on students' Performance" for faculty members and lab engineers of Usman Institute of Technology, November 17, 2015.
 49. Dr. Muhammad Fareed: work shop "Developing Rubrics for Feedback and Assessment" for faculty members and lab engineers of Usman Institute of Technology, Nov. 18, 15.
 50. Dr. Muhammad Fareed: work shop "Foundations of Assessment" for faculty members and lab engineers of Usman Institute of Technology, November 24, 2015.
 51. Dr. Muhammad Fareed: work shop "Developing Questions for Different Levels" for faculty members and lab engineers of Usman Institute of Technology, November 25, 15.
 52. Dr Sajida Zaki Invited guest speaker at the Roundtable Discussion by Rumi Forum. Moderator Mr Javed Jabbar, Marriot Hotel on 14 October 2015.
 53. Dr Sajida Zaki "Research Methodology" and "Developing Research Proposals" Air War College- PAF Base Faisal on 2 March, 29 June, 12 & 19 August, 2015
 54. Dr Sajida Zaki "Research Methodology" School of Army Air Defence on 20 August 2015
 55. Dr Sajida Zaki Organizational & Managerial Communication, Dow University, 4 Dec 2015
 56. Dr Sajida Zaki Coordinator for Research Special Interest Group of the Society of English Language Teachers- Pakistan and managed Research SIG activities at the 31 International ELT Conference November 2015 Karachi.
 57. Dr. Madni Financial Management Workshop by HEC at NED University Karachi

58. Dr. Farooq Lecture "Loving and Living Peacefully: A prophetic example and legacy" in 2nd International Conference Infinite Mercy "How to serve Islam" organized by Rumi Forum at Marriot Hotel Karachi
59. Dr. Imrana New emerging dynamics of US-India relations: responses from Europe and Pakistan, held at Area Study Centre for Europe, University of Karachi
60. Dr. M. Fareed Work shop on 'Psychological Assessment', organized by Faculty Development Academy, COMSATS Institute of Information Technology, at CIIT Karachi.
61. Dr. M. Fareed Training "Project Management" HEC Indigenous on Campus Training. Conducted by Quality Enhancement Cell, NED University
62. Following is the list of Seminars/ Lectures/ Workshops/Sessions organized and /or participated in by the department for the undergraduate students in order to update them with the current practices & technologies. These were delivered by professionals from diversified IT & hardware design companies.
 - August 2015: Participation in DICE Health Exhibition & Competition Expo, (2nd Prize)
 - August 2015: Participation IEEEEP Project Exhibition
 - August 2015: Participation in Telenor IoT Expo
 - October 2015: Organized FYP Idea seminar for Third Year.
 - September 2015: Organized CACHE exhibition.
 - November 2015: Organized FYP Poster Exhibition.
 - May 2016: Organized Workshop on Smart Irrigation 2016

Speaker: Dr. Ghaus M Rizvi (Associate professor) Faculty of Engineering and Applied Science, University of Ontario Institute of Technology, CANADA

Date/Time	Activity	Venue	Target Audience
06-07-15 10:00 to 13:00 hr	Open seminar addressing methods for development of indigenous Wood Plastic Composite(WPC)	CIS Lecture Hall	Faculty of MME/ Final year students/Master program students/ Relevant industrialist
07-07-15 10:00 to 13:00hr	Open seminar addressing methods for development of Glass Fibre Reinforce plastic Wood Composite (GFRPWC)	CIS Lecture Hall	Faculty of MME/ Final year students/Master program students/ Relevant industrialist

5. Research Journals

Prof. Muhammad Masood Rafi is an editorial board member for Journal of Structural Fire Engineering and the Editor-in-Chief of NED University Journal of Research as well as a reviewer for thirteen International journals.

a. NED University Journal of Research an International Journal

NED University Journal of Research is the official journal of the NED University of Engineering and Technology, Karachi. Since 2013, the journal is published biannually in three sections, namely Materials, Structural Mechanics and Applied Sciences. The primary aim of the NED University Journal of Research is to provide an international forum for the dissemination of research and new development in engineering and technology and their applications in the benefit of mankind. The journal focuses on papers with a broad interest, based upon their subject area, the quality of research, the novelty of results and the potential for scientific contribution of the findings. The Journal presents advanced knowledge on engineering fundamentals and processes in such a form that it can be readily turned into practical applications. The Journal's objectives are intrinsic with the recognition and appropriate publication of the achievements of all those who have an interest in the participation

of the spread of knowledge. The Journal publishes a wide range of research and application papers which describe design, research & development studies and experimental & theoretical investigations.

b. Journal of Social Sciences and Interdisciplinary Research (JSSIR)

Journal of Social Sciences and Interdisciplinary Research (JSSIR) is a refereed, bi-annual journal of the Department of Humanities, NED University of Engineering and Technology. The journal acts as a forum for social scientists and researchers to investigate and discuss issues confronting societies both local and global. The scientific investigations about social phenomena in different contexts and areas of human interaction is an attempt to create awareness about the central issues confronting societies and to suggest solutions that are based on theoretical, methodological or empirical research findings. The social sciences research is imperative in improving our immediate and larger environments; and the interdisciplinary focus enables capturing complex issues more holistically through the knowledge in a variety of subject areas that would expand the horizons while looking for plausible explanations, implications and proposed remedy.

c. Journal of Architecture & Planning Research

Focusing on research works relevant to the fields of architecture and planning, the Journal of Research in Architecture and Planning (JRAP) explores issues of relevance to both scholars and practitioners. JRAP is a peer reviewed journal published annually since 2000, and has recently become a biannual publication since 2011. Every year one volume is planned on general topics and the other volume is theme based. The theme for upcoming year is announced at the beginning of each year in its 'call for papers'. However, contributions on general topics are accepted any time of the year and incorporated in coming issue after going through a peer review process. JRAP holds the privilege of being the first, and perhaps the only peer reviewed journal in the discipline of architecture and planning, published from Pakistan.

6. Research Collaboration

6.1 Indigenous

6.1.1 Department of Civil Engineering

- National Disaster management Authority, Pakistan
- SUPARCO
- University of Peshawar, Pakistan
- University of Baluchistan, Pakistan
- Amreli Steel
- MATRIX Company
- Lucky Cement
- Frontier Works Organization (FWO)
- Karachi Water and Sewerage Board
- WWF - Pakistan

6.1.2 Department of Computer & Information Systems Engineering

Quaid-e-Awam University of Engineering Science & Technology (QUEST)
Mehran university of Engineering and Technology (MUET)
Agha Khan University Hospital

6.1.3 Department of Urban & Infrastructure Engineering

Road Traffic Injury Research; A collaborative effort-of NED University, JPMC and Aga Khan University Hospital and approved by Federal Ministry of Health. Under this project, the Department has close liaison with CDGK for advising on road safety improvement projects.

6.1.4 Department of Architecture & Planning

Publications by DAP-NED

Journal of Research in Architecture and Planning

A meeting was held at Higher Education Commission (HEC) on 29 February 2016 to discuss the fresh status of categories of the journals. Prof. Dr. Noman Ahmed presented JRAP's progress and status. Minutes of the said meeting are still awaited.

Karachi: Through the Prism of Urban Design

It is a monograph authored by Prof. Dr. Noman Ahmed, Ms. Asiya Sadiq - Associate Professor, Ms. Suneela Ahmed and Ms. Masooma Mohib Shakir – Assistant Professors. The printing of this monograph, which covers the urban design appraised of fifty case locations and initiatives in Karachi, has been supported by Cowasjee Foundation. The book was launched in the 11th Seminar on Urban and Regional Planning at NED City Campus on 26 March 2016.

6.1.5 Department of Materials Engineering

Title	Principal Investigator	Research Scholar
Modeling and Optimisation of Solar energy Based Thermoelectric Power Generation System	Prof. Dr. Mubashir Ali Siddiqui	Mr. Naveed ur Rehman (Assistant Professor)
Title	Total Funding (in million)	Funding Agency
Modeling and Optimisation of Solar energy Based Thermoelectric Power Generation System	7.499	NED UET

6.1.6 Department of Food Engineering

- Dalda,
- HEJ
- Tripack
- Hub Salt Refinery

6.1.7 NED - DICE Energy Innovation Centre

NED-DICE is a joint collaborative initiative of NED University of Engineering and Technology and DICE Foundation. NED-DICE provides a platform for energy related innovations and for collaboration among academia, industry, government, entrepreneurs and expatriates to integrate science, technology and policy solutions to solve pressing energy challenges faced by Pakistan. NED-DICE aims to mobilize Energy Professionals of Pakistani origin around the world, to take advantage of their expertise and experiences for growth of energy sector in Pakistan.

6.1.8 High Performance Computing Centre (HPCC)

High Performance Computing Centre is aimed to provide state-of-art R&D opportunities for its users. It provides more power and larger bandwidth to address the challenging computational needs of the present day world in a fast moving technological era.

6.1.9 Construction Materials Research Group (CMRG)

Construction materials are integral part of infrastructure development steadily in-progress all over the globe. For sustainable economic growth it has become imperative now to explore new materials and enhance the understanding of existing material in terms of quality, demand, and their on-site performance. To bring these issues scientifically under one umbrella, research group consisting of expertise in related fields of specialization; namely Construction Materials Research Group (CMRG) at NED University has been established.

6.1.10 Network of Excellence in Energy Development Group (NEED Group)

Shortage of energy besieges the world, Pakistan is no exception. In fact, in the present scenario, energy deliveries are falling well short of demand resulting in (power) load shedding, gas closures, reduced industrial output, water supply shortages, etc. This is happening despite the country

having large energy resource of coal, hydroelectric, solar, wind, tidal etc. Most of these resources are not fully utilized to meet the present energy crises. For sustainable economic growth it has become imperative now to explore new and alternate method for energy production and develop protocol for energy conservation. In order to bring these issues under one umbrella, a research group, consisting of experts in related fields of specialization, has been formulated - and we are Network of Excellence in Energy Development Group at NED University (NEED).

6.1.11 Electronics Design Centre

Electronics Design Centre performs cutting-edge fundamental and commercially driven research in electronic devices and circuits, radio frequency and microwave integrated circuits. Since its inception (January 2011), EDC's primary objectives have been to investigate scientific fundamentals necessary to obtain incessant improvements in ultimate miniaturization, increased functionality, enhanced bandwidth and improved efficiency. EDC strives to enhance NED University's reputation for quality research output.

6.2 Foreign Linkages

- Dr. Syed Muhammad Wasim Raza, Department of Biomedical Engineering has won research grant of €15000/- from Institute of Motion Analysis and Research, University of Dundee, UK for 3 years project titled "Three Dimension Motion analysis on patients with movement disorders for clinical treatment and rehabilitation" funded by Higher Education Commission of Pakistan (HEC) & British Council.
- Petroleum Engineering Department, NED University has developed linkages through signing of MOU's with the following foreign academic institutions:
 - Department of Petroleum Engineering & Applied Geophysics, Norwegian University of Science & Technology, Trondheim, Norway under Pak Norway Institutional Cooperation Programme. An MOU has been signed in September 2015. **Objective:** To support the Establishment of Norwegian Centre of Excellence for Petroleum Studies at NED University & for research & training.
 - Linkage with Portsmouth University, UK (Recently developed through British Council Research Link Programme & President's Programme for Care of Highly Qualified Overseas Pakistanis). **Objective:** To collaborate in Research & Training.
- Memorandum of understanding between the Department of Urban and Infrastructure Engineering and Transportation Mobility Institute (IMOB), Hasselt University, Belgium, the following are the key areas where both institute are collaborating with each other during the reporting period.
 - Faculty exchange
 - Value Addition Short Courses
 - Representation of Pakistan in Scholarships schemes for short courses
 - Formulation of a joint PhD Program
 - Possibility of a split master's program
 - Joint Research in Specific areas of Transportation Engineering
 - Joint Consultancy Projects
- The stated linkage was continued during the reporting period.
 - Study on the Assessment of CO₂ Emissions from Trucks. Funding Agency: UNDP; Funding Amount: PKR 2.6 Million
 - Predicting traffic congestion in Karachi through Artificial Techniques
 - Amount: PKR 2.5 Million

- Department of Earthquake Engineering has strong linkages to renowned international universities such as, Stanford University, USA, University of California, Berkeley, USA, University of Ulster, Northern Ireland, University of Aveiro, Portugal, Heriot Watt University, UK, University of Michigan, USA, British Columbia Institute of Technology, Canada, Rose School, Italy, etc.
- Department of Automotive Engineering have established foreign academic linkages with Academicians and Researchers in
 - Helmut Schmidt University, Hamburg, Germany
 - The University of Manchester, UK
 - Lappeeranta University of Technology, Finland
- Dr S. M. Rezaul Hasan, Associate Professor at School of Engineering and Advanced Technology of Massey University, Albany, Auckland in connection with “VLSI Design and Testing” research group of the Department of Computer & Information Systems Engineering.
- The Department of Computer & Information Systems Engineering has close ties with Network Research Group headed by Professor Krys Pawlikowski at University of Canterbury, Christchurch, New Zealand.
- The Department of Computer & Information Systems Engineering is also linked with Waikato Advanced Network Dynamics (WAND) research group headed by Associate Professor Tony McGregor at University of Waikato, Hamilton, New Zealand.
- The Department of Computer & Information Systems Engineering is actively involved in a funded research project by DAAD Germany. This project is being done in close collaboration with University of Kaiserslautern, Germany and German Research Center for Artificial Intelligence. In this project, the head and the team lead are Prof. Dr. Andreas Dengel and Dr. Saqib Bukhari.

Title	Faculty Member	Organization	Estimated
Water Resource Management for Agricultural Areas of Pakistan	Dr. M. Khurram	DAAD and German Research Centre for Artificial Intelligence	70K Euros
Design and Development of Internet of Things (IoT) Enabled Devices for Smart Homes	Dr. M. Khurram as PI	ICTR&D Fund	10 M (Rupess)

- The Department of Computer Science & I.T. is in the process of developing linkages with foreign universities. Informal links exist between School of Computing, Leeds University, and also link with external thesis reviewers for Ph.D. programme has been established with Department of Computing Science and Mathematics, Stirling University, and National ICT Australia, Berlin School of Economics and Law, and Beuth University of Applied Sciences in Germany.
- The Department of Metallurgical Engineering linked with following:
 - AGH University of Science and Technology, Krakow, Poland
 - Memorandum of Understanding between AGH UST and NED UET has been established. It is agreed that an environment for research, educational and training excellence and a free and open exchange of ideas are goal to be cooperatively pursued in this relationship.
 - Manchester University, UK
 - Sheffield University, UK
 - KIAST, South Korea
 - University of Leeds, UK

- FAU Erlangen, Germany
- University of Stuttgart, Germany
- Department of Materials Engineering has developed links with the following institutes:
 - Sheffield University, UK
 - University of Leeds, UK
 - KIAST, South Korea
 - Manchester University, UK
 - Masdar University, Masdar.
 - FAU Erlangen, Germany
- Industrial& Manufacturing Department is linked with following foreign universities.
 - Loughborough University Leicestershire,UK
 - Michigan Technological University,Michigan USA
 - Linköping University (LiU) Linköping ,Sweden
 - Dogus University Istanbul ,Turkey
- Faculty Applied for Grants from ICT R&D "National Grassroots ICT Research Initiative 2015. Following two Final Year Projects from Telecommunications Engineering Programme were successful in acquiring the grant:
 - Design, Analysis and Implementation of Tele-cardiology
 - Design and fabrication of Wearable Antenna for Wireless Body Area Networks
- Department of Electronic Engineering is linked with following foreign universities.
 - Research collaboration with Linköping University, Sweden
 - Research collaboration with Michigan Tech University, Michigan, USA
 - Research collaboration with Queens Mary, University, London, UK

FYP Title	Supervisor Name	Total Budget
Live Streaming Through Quadcopter (UAV)	Dr Ghous B Narejo	82,500
Design and Development of Low Cost PV Electronic Inverter that produces Pure and Modified Sinusoidal Results with a built in Charge Controller.	Dr Ghous B Narejo	86,250
Automation of Reverse Osmosis Plant Using H.M.I	Dr S.M.Usman Ali Shah	85,250

- Department of Humanities:
 - Faculty Visits / Academic attachments abroad: Dr. Farooq Hassan
 - Foreign scholars who visited the Department
 - Dr. Salih Yucel [Associate Professor, at the Centre for Islamic Studies and Civilisation, Charles Stuart University in Australia]
 - Dr. Zeki Saritoprak [Professor, John Carroll University]
 - Dr. Muhammad Zaid Malik [Professor & Translator, King Saud University, KSA]
- Office of Research, Innovation & Commercialization (ORIC)
 - Institute of Business & Technology
 - Sindh Madressatul Islam University, (ORIC), Karachi

6.3 Operation of the Office of Research, Innovation and Commercialization (ORIC)

- ORIC seeks to enhance the environment for all research and scholarship by:
- Supporting the university's strategic research directions and policies
 - Increasing and diversifying external research funding
 - Improving recruitment and retention of top faculty

- Improving integration of research and education at all levels of the university
 - Improving translation of research into the public benefit
 - Strengthening university-industry relationships
 - Promoting entrepreneurship, technology-transfer and commercialization activities that energize and support the local and national economy
 - Promoting and enhancing cross-cutting and multi-disciplinary research initiatives
- Objectives of ORIC.

6.3.1 Responsibilities of ORIC

- The Office of Research Innovation and Commercialization at NED University of Engineering and Technology is being established to link research and commercialization from the University with emerging and existing firms across Pakistan and around the world. As an umbrella Work closely with the researchers, chancellors and on campus Incubators, the office also serves as a conduit to local, regional and federal partners to ensure research results aid the growth of Pakistan's economy.
- ORIC will develop it mechanism for research commercialization and will establish a Business/Technology Incubator to work closely for innovation and entrepreneurship.

The mechanism for conducive environment and to give strong platform is developed by merging different bodies working in an institute. The directorate of industrial liaison and business incubation centre will support research commercialization and will provide a platform for university industry research linkage.

6.3.2 Services Offered

- Fund raising for research
- Provide information to faculty about various available research grants
- Link faculty with relevant industry
- Help and guide on patent filing and licensing
- Interface between faculty and the commercial sector
- Work with patent counsel to assess patentability/licensing
- Evaluate markets for commercialization of inventions
- Identify potential licensees
- Negotiate terms of licenses
- Assist with negotiating problematic sponsored research agreements
- Help faculty start companies

Chapter – 3



QUALITY ASSURANCE



Quality Assurance

1. Overview of Quality Management System

NED University of Engineering & Technology has established a well-designed quality management system with an effective and efficient mechanism of the quality assurance. The Quality Management Cell (QMC) of the University is performing the assigned duties and carrying out its activities with the principle objectives of customers' satisfaction, continual improvement and conformance to the standards. The QMC is working with vision to develop the University as a world class institution of higher education, research and development in Engineering and relevant fields by employing best quality assurance measures and contribute effectively in building-up the required indigenous technical capabilities according to the national and international requirements.

After the advent of Quality Assurance Agency (QAA) of Higher Education Commission (HEC), the University has also established the Quality Enhancement Cell (QEC) and adopted the QAA requirements related to quality in education in addition to the 'Quality Management System' already in practice. The role of Quality Enhancement Cell (QEC) is to assist the University in improving research and teaching by continuous enhancement of academic standards under HEC guidelines. The QEC is involved in activities related to curriculum development, teaching and research quality, admission policies, examination policies and process control, in general.

2. Impact of Quality Assurance in the University

Both the QMC and the QEC are making all possible efforts for proper implementation of the Quality Management and Assurance System in the University; details as follows:

1. Besides the University Act, the Statutes and the Regulations, the Quality System Procedures (QSP) and System Operating Procedures (SOPs) have been prepared for the major functions of the University and the functioning of teaching and non-teaching departments respectively.
2. In addition to the routine functions, all the teaching as well as non-teaching departments are assigned the Yearly Objectives together-with Action Plans defining a sequence of activities of the whole year.
3. Preparation of the Self-Assessment Reports (SARs) of all academic programmes of the University and subsequent assessment followed by the corrective and preventive actions.
4. All the prescribed University processes and systems are checked quarterly through Internal and External Audits with the help of trained Internal Quality Auditors and well-qualified External Auditors of Lloyds Register Quality Assurance (LRQA) respectively. The corrective and preventative actions are planned over the observations and non-conformities detected in the audits. The planned actions are then carried out and checked in the subsequent audits.
5. The Customer Feedback Surveys are carried out for all academic programmes and other major activities/ processes. The Feedback Reports are discussed in the management review meetings.
6. The management review meetings are held in each quarter at the departmental levels and twice in a year at the University level.
7. The training sessions are also organised throughout the year in order to ensure capacity building of the faculty and staff members as well as for the improvement in both quality of services and efficiency of University personnel.

3. Quality Management Cell (QMC)

3.1 Placement of QEC-NED in 'W' Category

Quality Assurance Agency (QAA) of the HEC assesses the progress of the QECs of all Universities through a quantitative 'Scorecard System' based upon their performance and participation in quality-related processes. During the reporting period, the University QEC has been assigned a score of 87% with a placement in 'W' Category

3.2 Online Feedback System for Postgraduate Students

Quality Management Cell with collaboration of IT Department has now developed the **Online Feedback System** for Postgraduate Students and implemented it from Spring Semester 2016. The newly developed Online Survey will save unnecessary usage of paper and will also reduce efforts for compiling and analysis of the data.

4. Quality Enhancement Cell (QEC)

4.3 Self-Assessment Reports (SARs)

The work on Self-Assessment Reports of following departments was carried out with the assistance of Programme Teams (PTs) and Assessment Teams (ATs) in accordance with the procedure as laid down by the HEC-QAA.

SNo	Bachelor's Programmes
1	Food Engineering
2	Construction Engineering
3	Software Engineering
4	Development Studies
5	Textile Science
6	Management Sciences

4.4 Participation in the HEC/QEC meetings and workshops

Dr. Muhammad Aslam Bhutto, DMR-I/ Deputy Director (QEC) participated in the 8th Meeting-cum-Workshop on 'Quality Enhancement Cells (QECs), Phase-IV' organized by the QAA-HEC on 31st March and 1st April 2016 in Islamabad.



4.5 External and Internal Audits/ Assessments

Audit being the major activity regarding implementation of ISO standard, Quality Management Cell arranged two Surveillance Audits and two Internal Quality Audits during the current reporting period. Brief summary of audits conducted during this year is given below to review the overall improvements achieved in the quality implementation.

Surveillance Audit		
Observations	July 2015	January 2016
Scope for Improvement (SFI)	03	04
Requires correction (RC)	00	00
Minor Non-conformity (Minor-NC)	00	00
Major Non-conformity (Major-NC)	00	00
Remarks	Actions have been taken on all observations	
		Under process

Internal Quality Audits		
Observation	26 th IQA May 2015	27 th IQA December 2015
Scope for Improvement (SFI)	23	26
Requires correction (RC)	11	18
Minor Non-conformity (Minor-NC)	01	01
Major Non-conformity (Major-NC)	00	01
Remarks	All observations and non-conformities have been resolved	
		Under process

4.6 Yearly Objective 2016

The yearly objective 2016 for all teaching department is: "Shifting Teacher-centric pedagogy and classrooms to learner-centric through carefully developed instructional plans". This would provide a paradigm shift in moving towards modern teaching –learning process that is likely to induce the following changes benefits:

- The teacher oriented, lecture based, and highly controlled classrooms would become learner – oriented where learners are physically and cognitively involved in the learning process. Instead of rote memorization they will be provided opportunities to understand and apply the learnt material.
- There is likely to be shift from Teaching Objectives to Learning Outcomes. This is the first step towards meeting the requirements of accreditation bodies and employers concerning our graduates.
- This learner centered shift will make activity based learning a norm which would be manifested in various forms such as task based learning, project based learning, problem based learning, cooperative learning, experiential approach, discovery and mastery learning concepts.
- Combining theory with application and knowledge with skills is another desirable feature attainable under this shift.

- Sessional assessment philosophy would be really targeted since the continuous and formative assessment would become integrated and the students achievement is likely to enhance (the passing rate and the overall grades).
- Our graduates will have a good blend of technical and soft skills. They will be prepared for life and careers ahead instead of exams. Our graduates are pulled towards the qualities of qualified graduates who are described as: Academia must produce graduates who are Independent and life- long learners capable of thinking critically and communicating effectively and who have the knowledge and the skills required to solve problems in their professional and societal contexts”.

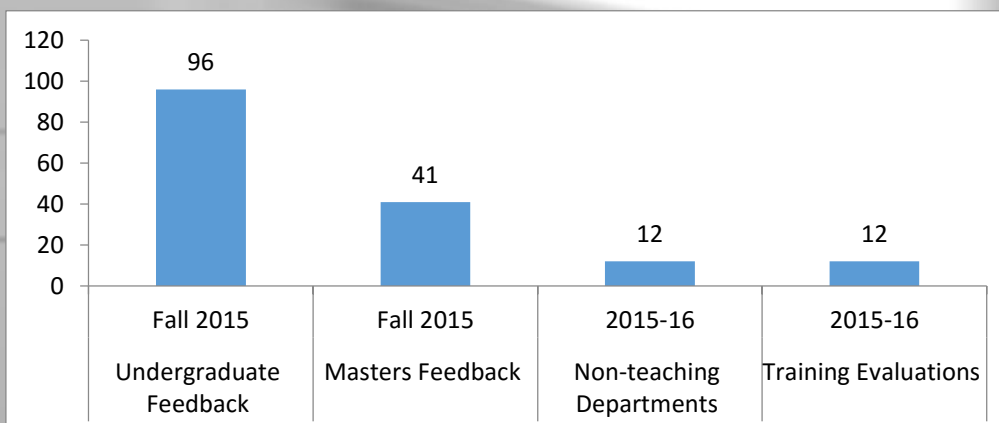
4.7 Board of Reviews Meetings

- Quality Management Cell is responsible for arranging Board of Review (University Level) meetings. One meeting i.e. 24th BOR (University Level) was held during the year 2015-16 on 18-01-2016.
- The major part of agenda of the meeting included non-compliance and improvement notes observed during Surveillance and Internal Quality Audits and customer feedback analysis reports of various departments.
- Four meetings of the Board of Review (Department Level) of Quality Management Cell were arranged during the reporting period.

4.8 Customer Feedback

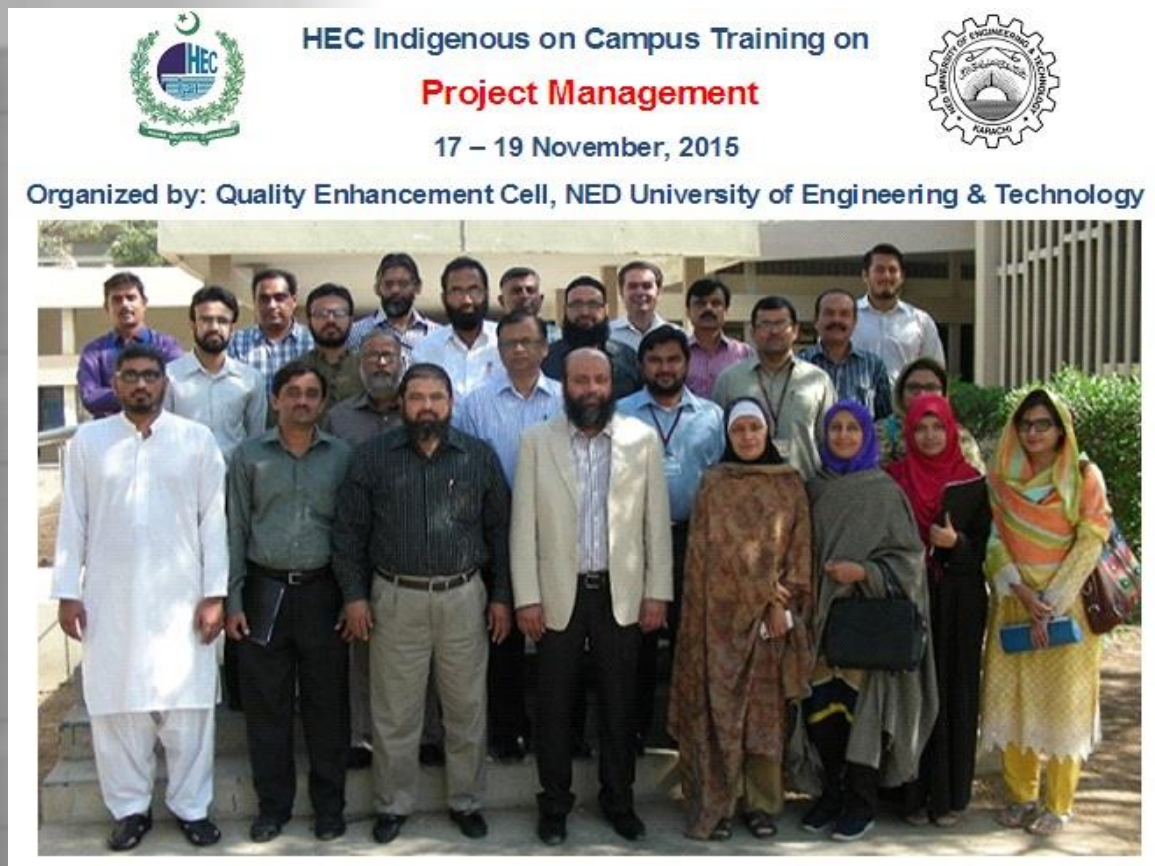
- An important activity of Quality Management Cell is to collect customer feedback, analyse it, prepare report and communicate it to concerned departments. Findings of feedback are discussed in management review meeting i.e. Board of Review (University Level).
- The Quality Management Cell is now conducting both Undergraduate and Postgraduate Feedback Surveys online with the support of IT Department.
- Quality Management Cell received data from various teaching and non-teaching departments and prepared evaluation reports for these surveys. Analysis reports were sent back to the concerned departments to discuss into their BOS/ BOR (Department Level). Details are as under:

Survey Title	Survey Details	No. of Reports
Undergraduate Feedback	Fall 2015	96 (Automated)
Masters Feedback	Fall 2015	41
Non-teaching Departments	2015-16	12
Training Evaluations	2015-16	12



4.9 Training

- a) Another important activity of Quality Enhancement Cell is planning and arrangement of various training programmes according to the requirement of departments. The department organised fourteen (14) training sessions on various topics. List of titles are given below:
- (01) Energy & Water Conservation
 - (02) Management of Stock Register
 - (03) Duties and Responsibilities of Invigilators
 - (04) Time Management
 - (05) HEC Indigenous On-Campus Training on "Financial Management"
 - (06) HEC Indigenous On-Campus Training on "Project Management"
 - (07) Professionals Development Programme for UIT officers/ faculty members
 - (08) HEC Indigenous On-Campus Training on "Organizational Systems and Behaviour"
 - (09) Effective Teaching Practices
 - (10) Web Development
 - (11) HEC Indigenous On-Campus Training on "Quality, Management, Control & Assurance"
 - (12) HEC Indigenous On-Campus Training on "ICT Skills"
 - (13) HEC Indigenous On-Campus Training on "Computer & Network Security"
 - (14) Training for Program Team (PT) members for preparation of SARs





HEC Indigenous on Campus Training on
Organizational Systems and Behavior

1 – 3 December, 2015



Organized by: Quality Enhancement Cell, NED University of Engineering & Technology



HEC Indigenous on Campus Training on
Quality Management, Control and Assurance

27 – 29 January, 2016



Organized by: Quality Enhancement Cell, NED University of Engineering & Technology





HEC Indigenous on Campus Training on Computer and Network Security

2 – 4 March, 2016



Organized by: Quality Enhancement Cell, NED University of Engineering & Technology



4.10 Document/ Record Change Request (DCR)

DCR is raised for making any change/modification in the QMS documents. During the year 2015-16, Quality Management Cell entertained eighteen (18) DCRs. Details are as under:

DCR Received	Approved	Under Process
18	16	02

4.11 Quarterly Progress Report

Quality Enhancement Cell is responsible for preparing Quarterly progress reports. During the year department has submitted all required quarterly progress reports to HEC.

During the year 2015-16, Quality Management Cell operated effectively, smoothly and performed its responsibilities efficiently.

4.12 Membership of Associations/ Networks

NED University of Engineering & Technology is an institutional member of following Quality Networks.

- 1) Asia Pacific Quality Network (APQN)
- 2) Talloires Network (New)

4.13 Accreditation of Programmes from Relevant Councils

All Bachelor's programmes in engineering disciplines are accredited with the Pakistan Engineering Council, while that in Architecture is accredited with the Pakistan Council of Architects and Town Planners (PCATP).

Chapter – 4



FACULTY DEVELOPMENT

Faculty Development

1. Faculty Development Programmes

1.1 Locals Ph.D

Indigenous Faculty Development				
S#	Name of Scholar	Department	Ph. D Research Project	Supervisor
1	Mr. Fareed Ahmed	Computer Science & I.T.	Intelligent Database Strategies for Marketing Decision Support System	Prof. Dr. Ansar Ahmed Khan
2	Engr. Raheela Asif	Computer Science & I.T.	Development of New Data Mining Techniques for Analysis of Educational Data	Prof. Dr. Mahmood Khan Pathan
3	Ms. Shabnam Nigar Mumtaz	Architecture	Imprints of Zoning, Buildings & Town Planning Regulations on the Built Environment - with Special Reference to Karachi	Prof. Dr. Noman Ahmed
4	Ms. Sana Arshad,	Electronic Engineering	Flexible Low Noise Amplifier for Software Defined Radio	Prof. Dr. Qamar-ul-Wahab
5	Mr. Mirza Muhammad Ali Baig	Electrical Engineering	Development of Audio Content Based Search Techniques	Prof. Dr. Saad Ahmed Qazi
6	Mr. Naveed Ur Rehman	Mechanical Engineering	Modelling and Optimisation of Solar Energy Based Thermoelectric Power Generation System	Dr. Mubashir Ali Siddiqui

List of Students of Ph.D. Programme 2015-16		
S#	Name of Scholar	Department
7	Muhammad Danish Mujib	Biomedical Engineering
8	Muhammad Faraz Hyder	Computer & Info. Systems Engineering
9	Murk Marvi	Computer & Info. Systems Engineering
10	Salman Jafri	Computer & Info. Systems Engineering
11	Umm E Laila	Computer Science & Information Technology
12	Muhammad Haider	Earthquake Engineering
13	Muhammad Murtaza Nasir	Earthquake Engineering
14	Abdul Samad Anwer	Electrical Engineering
15	Uzma Perveen	Electrical Engineering
16	Muhammad Omar	Electrical Engineering
17	Abul Khair Muhammad Shafaat Ali	Electronic Engineering
18	Agha Muhammad Shakir	Electronic Engineering
19	Irfan Ali	Electronic Engineering
20	Maheen Mazhar	Electronic Engineering
21	Sundus Ali	Electronic Engineering
22	Arshad Hanif	Electronic Engineering
23	Syed Raza Abbas Jafri	Electronic Engineering
24	Ayesha Adil Khan	Electronic Engineering
25	Hira Mariam	Electronic Engineering
26	S M Abbas Zaidi	Electronic Engineering
27	Hina Manzoor	Humanities
28	Rahila Huma Anwar	Humanities

List of Students of Ph.D. Programme 2015-16		
S#	Name of Scholar	Department
29	Muhammad Asim Khan	Humanities
30	Maria Iruj	Industrial & Manufacturing Engineering
31	Muhammad Midhat Ali	Industrial & Manufacturing Engineering
32	Syed Shahwar Hassan	Industrial & Manufacturing Engineering
33	Waqas Ahmed Baig	Industrial & Manufacturing Engineering
34	Hira Ashfaq Lodhi	Mathematics Engineering
35	Kashif Ali	Mathematics Engineering
36	Nousheen	Mathematics Engineering
37	Sanauallah	Mathematics Engineering
38	Ubaida Fatima	Mathematics Engineering
39	Kashif Noor	Mechanical Engineering
40	Munir Ahmed	Mechanical Engineering

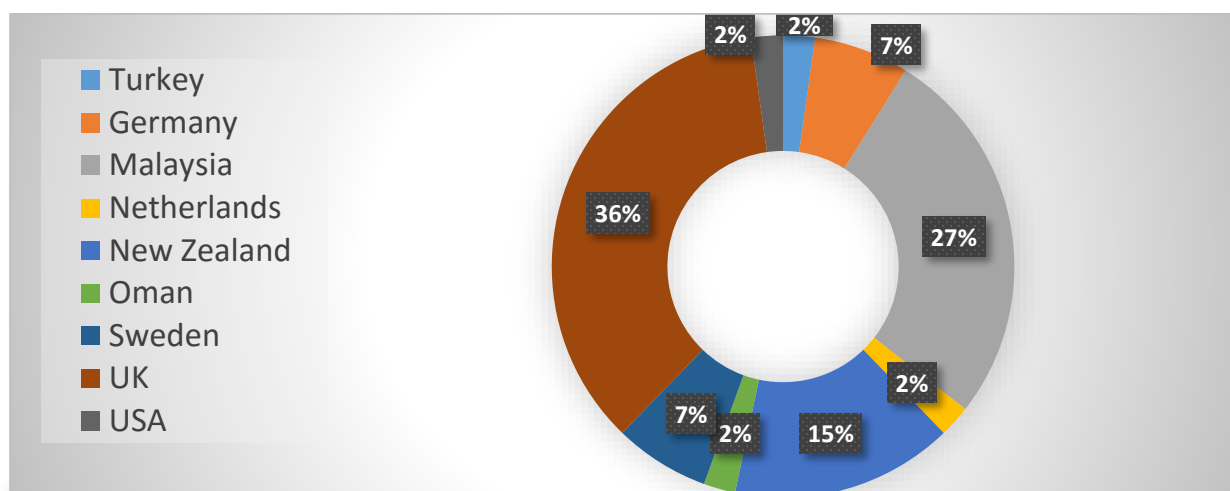
1.2 Foreign Ph.D

Human Resource Development Programme				
S#	Name	Department	Ph.D Research Title	University
1.	Mr. Noman Ahmed	Electrical	Efficient Modeling of Modular Multilevel Converters for HVDC Transmission Systems	Royal Institute of Technology, Sweden
2.	Mr. Muhammad Danish Hanif	Mechanical	Mechanical	Sultan Qaboos University, Oman
3.	Mr. Tahir Malik	Electronic	Ultra-Wideband (UWB) Radio for Communication	University of Canterbury, New Zealand
4.	Mr. Javed Haneef	Petroleum	Fluid Flow Properties and Production Implications in Faulted Reservoirs	University of Leeds, UK
5.	Mr. Muhammad Amir Qureshi	Textile	Prediction and Elimination of Seam Pucker by Mathematical Modelling	Heriott Watt University, UK
6.	Mr. Iqbal Tariq	Mathematics	Development of Plastic Dostimeter	University Sains, Malaysia
7.	Mr. Bilal Ahmed Usmani	Bio Medical	Investigation disease persistence in host vector systems dengue as case study	University of Glasgow, U.K.
8.	Mr. Abdul Majeed	Petroleum	Petrophysical Properties of Fault Rocks- Implications for Petroleum Production	University of Leeds, UK
9.	Mr. M.Waseem	Mechanical	Formability of Magnesium Alloys	University Tech, Malaysia
10.	Ms. Shakila Bint Reyaz	Electronic	Reconfigurable & wide-band receiver components for millimeter-wave radiometer front-ends	Uppsala University, Sweden
11.	Ms. Uzma Afsheen	Electronic	Electronic	University of Canterbury, New Zealand
12.	Mr. M. Khurram Shaikh	Electronic	Homogeneous to Heterogeneous Face Recognition	Northumbria University, UK
13.	Mr. Shamsun Fareed	Civil	Subsea Pipes under High Mass Low Velocity Impacts	Heriott Watt University, UK

Human Resource Development Programme				
S#	Name	Department	Ph.D Research Title	University
14.	Mr. Fahim Ul Haque	Electronic	Large Dynamic range power efficient re-configurable switch mode power amplifier	Linköping University, Sweden
15.	Ms Saima Gul	Mathematics	Functional Differential Equations in Cell Growth Model	Massey University, New Zealand
16.	Mr. Fayaz Hussain	Metaterials	Lead Oxide free piezoelectric 'Potasaium sodium niobate' for energy harvesting devices	University of Sheffield, UK
17.	Mr. M. Owais Raza Siddiqui	Textile	Heat Transfer Analysis of Textile Structures using Finite Element Method	Heriot Watt University, UK
18.	Mr. Saqib Jamshed Rind	Automotive	Speed Sensorless Vector Control of Induction Motor Drive for Electric Vehicles and Hybrid Electric Vehicles	University of Liverpool, England
19.	Mr. Asim Zaheer	I & M	Designing Hand-Held Equipment for Ease of Use	University of Sheffield, UK
20.	Mr. Asim Mushtaq	Polymer & Petrochemical	Development of Enhanced Polymeric Blend membrane with Amines For Removal of CO ₂ From Natural Gas	University of Petronas, Malaysia
21.	Mr. M. Ehteshamul Haque	Mechanical	Analysis and Simulation of Flow Patterns and Heat Transfer in Refrigeration System	University of Malaysia Pahang, Malaysia
22.	Mr. Shakeel Ahmed	I&M	Gripping and Handling Technology of Flexible Materials	Sheffield Hallam University, UK
23.	Ms. Mahrukh	Mechanical	Computational Modelling of Thermal Spray Process	Cranfield University, UK
24.	Mr. Usman Allauddin	Mechanical	Mechanical Engineering	University Bundesweh Germany
25.	Mr. Nisar Ahmed Shar	Bio-Medical	Transcription Factors Mutual Interactions and their binding in Combinatorial Regulation of Genes	University of Leeds, UK
26.	Ms. Umbrin Sultana	Electrical	Voltage Stability and Loss Reduction Enhancement of Distribution System Based on Distributed Generation Planning	Universiti Teknologi, Malaysia
27.	Mr. Noman Uddin Yousuf	Automotive & Marine	Utilisation of waste heat energy from an internal combustion engine for tri-generati	Auckland University, New Zealand
28.	Mr. Saad Nadeem	Chemical	Metalloporphyrin based ZIFS for CO ₂ to methanol conversion under UV light irradiation	University of Petronas, Malaysia
29.	Ms. Masooma Mohib Shakir	Architecture & Planning	Intangible and Tangible Heritage – Identifying Conflicts in Approaches and Values in the Postcolonial Context of Sindh Region – Cse of Cultural Heritage of Sufi Saints	Bauhaus University, Germany

Human Resource Development Programme				
S#	Name	Department	Ph.D Research Title	University
30.	Mr. Tariq Jamil	Mechanical	Molecular Modeling & multiscale simulations to gain fundamental understanding related to building materials	University of Akron, USA
31.	Mr. Nafisul Haque	Metallurgical	Disorder Trapping in Rapidly Solidified Intermetallic Compounds	University of Leeds, UK
32.	Mr. Adnan Rais	Civil	Integrated Bridge-Utility Systems: Performance Based Assessment & Mitigation of Earthquake Induced Physical and Functional Impacts	University of Canterbury, New Zealand
33.	Mr. Muhammad Uzair	Mechanical	Convection Induced Heat Loss from Solar Receiver	Auckland University, New Zealand
34.	Ms Rabela Junejo	Architecture & Planning	Architectural Permeability Stylistic Encounters in the Architecture of the Makli Necropolis (14 th – 18 th) Centuries)	Middle East Technical, Ankara
35.	Mr. Raja Masood Larik	Electrical	Design of an Intelligent Control Based UPFC for Fast Voltage stability Achievement Using Fuzzy Logic Controller	Universiti Teknologi, Malaysia
36.	Ms. Beenish Sultana	Electrical	Optimal reconfiguration of distribution system for power loss reduction	Universiti Teknologi, Malaysia
37.	Mr. Tariq Ali Gujar	Student Affairs	Comparative Study of Young and Senior people Electroencephalography activity during balance	Otto Von Guericke Universitat, Germany
38.	Mr. Abdurrahman Javid Shaikh	Electrical	Electrical Engineering	University Sains, Malaysia
39.	Mr. M. Sajid Ali Asghar	Materials	Irradiation Induced Synthesis of Nanoparticles	University of Sheffield, UK
40.	Mr. Abdul Raheem Qureshi	Sultan Qaboos	Electrical Engineering (RFIC, Domain)	DELFT University, The Netherlands
41.	Sayyeda Najia Zaidi	Architecture & Planning	Informal Trading Areas – Exploring where they Develop and why	Cardiff University, UK
42.	Mr. Tariq Rehman	Electronic	Electrical Engineering	University Technology, Malaysia
43.	Mr. Shahid Ur Rehman	Electronic	Electrical Engineering	University Technology, Malaysia
44.	Mr. Rizwan Aslam Butt	Electronic	Electrical Engineering	University Technology, Malaysia
45.	Mr. Jawaad Ahmed Ansari	Food	Food Engineering	University of Auckland, New Zealand

- Graphical View of Foreign Ph.Ds



2. Returned Scholars

S#	Name	Department	Ph.D Research Title	University
1.	Dr. Tehmina Ayub	Civil Engg.	-	Universiti Teknologi Petronas, Malaysia
2.	Dr. Shariq Mahmood Khan	Computer Science & I.T.	-	Brunel University West London, UK
3.	Dr. Shehnaila Zardari	Computer Science & I.T.	Risk Management & Mitigation in Outsourced Software Development	University of Birmingham, UK
4.	Dr. Mehmood Ali	Environmental Engg.	Production, Performance and Analysis of Bio Fuels.	University of Glasgow, UK
5.	Dr. Sheheryar Mohsin Qureshi	Industrial & Mfg. Engg.	Industrial & Management Engineering	Hanyang University South Korea
6.	Dr. Shahid Hussain	Materials Engg.	Materials Science and Engineering	Korean Advanced Inst. of Sci. & Tech., Korea
7.	Dr. Muhammad Sohail	Materials Engg.	Mechanical Engineering	Korean Advanced Inst. of Sci. & Tech., Korea
8.	Dr. Ali Dad Chandio	Metallurgical Engg.	-	University of Manchester, UK
9.	Dr. Abdul Majeed	Petroleum Engg.	-	University of Leeds, UK
10.	Dr. M. Owais Raza Siddiqui	Textile Engg.	-	Heriot-Watt University UK
11.	Dr. Quratulain Mohtashim	Textile Engg.	Textile Science & Technology	University of Manchester, UK
12.	Dr. Sadaqat Ullah Khan	Urban & Inf. Engg.	Civil Engineering	Universiti Teknologi Petronas, Malaysia
13.	Dr. Afzal Ahmed	Urban & Inf. Engg.	-	University of Leeds, UK
14.	Dr. Anis Fatima	Industrial & Mfg. Engg.	Manufacturing Engineering	University of Manchester, UK
15.	Dr. Iqbal Tariq	Physics	Medical Physics	University Sains, Malaysia

3. Pre-service and In-service Professional Development Programmes

Considering the importance of Continuing Engineering Education (CCEE) for Graduate Engineers & Professionals, the Vice Chancellor, NED University established Centre for Continuing Engineering Education (CCEE) in 1998, and renamed it later on as "CCEE (Academy)" in 2008. The CCEE (Academy) design, devise and conduct short duration courses in Engineering, Information Technology, Management, Conversion Course for B.Tech (Pass) as well as Postgraduate Certificate Courses (PGC).

Furthermore, CCEE (Academy) is now registered with Pakistan Engineering Council as Professional Engineering Body (PEB) and courses conducted by CCEE (Academy) are valid for earning CPD points.

Emphasis was laid on designing quality based professional courses / workshops on feedback from the industry and professionals. This strategy has resulted in making CCEE (Academy) programmes more successful and beneficial to professionals. During the reporting period (2015-16) Professional Courses such as Software Engineering; Managing the Maintenance Department; Six Sigma (Green Belt); Energy Conservation; Marketing a Product; Financial Management For Non-Financial Executives; Mastering Microsoft Project 2010; Inventory Management & MRP; Occupational Health & Safety; Industrial Control Systems; Web Engineering; Smart Grid Operations, Control & Implementation; Operation Control of Industrial Plant; Productivity Improvement via Lean Manufacturing; etc. were conducted, appreciated and acknowledged by the professionals as well as their respective organizations viz., TCS, Century Papers Board Mills Limited, Gwadar, K-Electric, Getz Pharma, SUPARCO, Amreli Steels, Dawlance Pvt. Ltd., Pak Suzuki Motor Company Limited, Colgate Palmolive, Atlas Honda Ltd., Machtrade Corporation, SICPA Inks, Tekcellent Private Limited, Dreamworld Resort, Hotel & Golf Course, PSO, EPZA, AGP Pvt Limited, USAID SBEP, Thal Engineering, Bayer Pakistan (Pvt.) Ltd., Atlas Battery Ltd, PRL, KPT, Jubilee General Insurance Co Ltd., Liaquat National Hospital, Karachi Nuclear Power Plant, Dolmen Real Estate Management (Pvt.) Ltd., Dawood University of Engg. & Tech., NHQ, Asian Continental, IBM, PARCO, YKK(Pvt)Ltd., AGP (Pvt.) Ltd., Peoples Steel Mills, AAA Facility Management Pvt. Ltd, etc.

The following trainings have been provided to faculty and staff under the ISO Training Programme of NED University

- Three days HEC Indigenous on Campus Training on Financial Management between 16 to 19 October 2015
- Duties & Responsibilities of Invigilators & Examiners on September 17, 2015
- HEC Indigenous on Campus Training on Quality, Management, Control and Assurance between 26 to 30 October 2015
- HEC Indigenous on Campus Training on Project Management between 17 to 19 November 2015
- HEC Indigenous on Campus Training on organizational System and Behaviour between 1 to 3 December 2015
- Training on Effective Teaching Practices between 7 to 9 December 2015

Prof. Dr. Najmi G. Haider attended the "Leadership and change management" training conducted at IBA in collaboration with HEC, 18-21 May, 2015.

Dr. Shariq Mahmood Khan, Assistant Professor, attended a two-day training on "Entrepreneurship Educators Symposium", at IBA, 21-22 March 2016.

B-Tech. Conversion Course 2013-14 (4 th Semester)		B-Tech. Conversion Course 2014-15 (2 nd Semester)
Engineering Sciences	Electrical Machines	Differential Equations , Probability & Statistics, Complex Variable & Fourier Series
Analysis of Determinate Structures	Logic Design and Computer Architecture	
Civil Engineering Drawing & Graphics	Materials & Manufacturing Processes	
Thermodynamics	Electromagnetic Fields	
Elements of Machine Dynamics & Design		Engineering Mechanics
B-Tech. Conversion Course 2014-15 (3 rd Semester)		Basic Electrical Engineering
Solid Mechanics	Computer Programming with C Language & Drafting	English
Circuit Theory	Fluid Mechanics	
Engineering Surveying	Electronic Devices & Circuits	Calculus
B-Tech. Conversion Course 2014-15 (3 rd Semester)		B-Tech. Conversion Course 2015-16 (1 st Semester)

3.1 Following short courses/trainings offered 2015-16

Course Title	Course Title
Six Sigma (Twice)	Smart Grid Operations, Control & Implementation (In-house KE)
Energy Conservation	Smart Grid Operations, Control & Implementation
Marketing a Product	Supply Chain and Enterprise Resource Planning (ERP)
Mastering Microsoft Project 2010	Industrial Control System
Web Engineering (Twice)	Industrial Plant (Maintenance, Operation & Control)
Software Engineering (Twice)	Enhancing Purchasing Performance
Finance and Accounts for Non-Financial Executives	Certified Human Resource Professional (Twice)
Inventory Management & MRP	Certified Health & Safety Environment Professional (Twice)
Productivity Improvement via Lean Manufacturing (Twice)	Certified Quality Professional (Twice)
Occupational Health & Safety	Certified Project Management Professional (Twice)
Managing the Maintenance Department	Certified Labour Laws & Industrial Relations Mgt (Batch-5)
How to Write a Research Paper	Certified Process Safety Implementation & Risks Mgt. Professional (Batch-1)
Time Series Forecasting by Statistical & Artificial Intelligence (In-house Hinopak)	Postgraduate Certificate Courses 2015-16

3.2 Following training programmes were attended by the faculty and the staff members:

Name of Teacher	Detail of Training	Date
Dr. Muhammad Shakaib, Associate Professor	Orientation Training-Online Feedback System of Masters Students	06-04-2016
Mr. Abdullah Aziz, Lecturer		
Syed Aftab Hussain, Jr. DEO		
Syed Aftab Hussain, Jr. DEO	Energy & Water Conservation	09-06-2015
Mr. S. M. Nouman, Jr. DEO	Management of Stock Register	10-06-2015
Mr. M. Uzair Yousuf, Lecturer		17-09-2015

Name of Teacher	Detail of Training	Date
Mr. Muhammad Sameer, Lecturer	Duties and Responsibilities of Invigilators & Examiners	
Mr. Muhammad Sohail, Technician	HEC Indigenous on Campus Training Program "Organizational Systems & Behaviour	01-12-2015 To 03-12-2015

3.3 Financial Status: (Short Courses, B-Tech, PGCC and In-house Trainings)

Period	Income	Expenditure	Net Income
1st July, 2015 to 15th April, 2016	14,717,429	4,260,287	10,457,142
Extrapolated up to 30th June 2016	1,200,000	800,000	400,000

3.4 In-house Trainings:

Organization	Course Title	Trainer	Duration
Hino Pak Motors Ltd.	Time Series Forecasting by Statistical & Artificial Intelligent Tech	Dr. Raza Ali Khan Dr. Uneb Gazder	One Day
K-Electric	Smart Grid Operations, Control and Implementations	Dr. Tariq Masood	Two Days

Chapter – 5



ACCESS

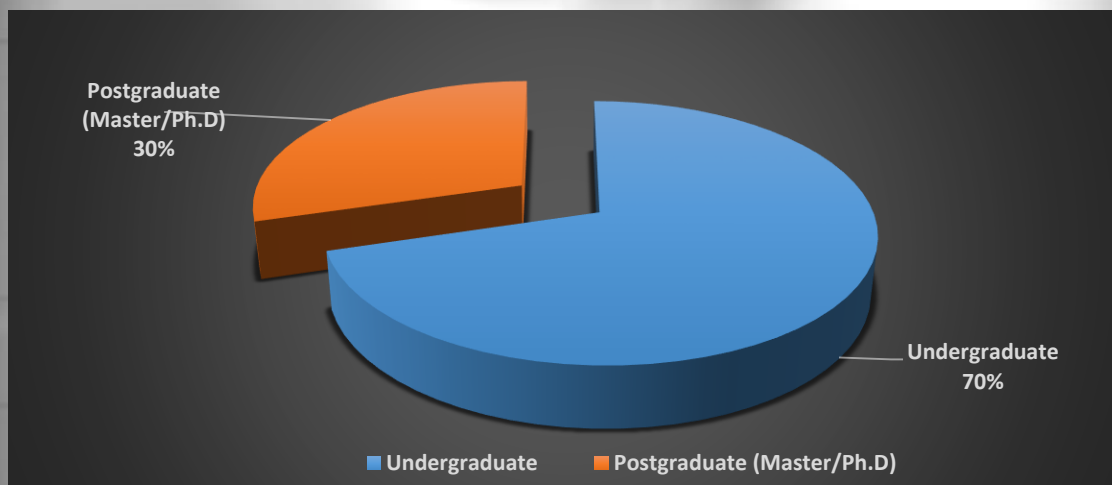
Access

1. Basic Enrolment

- Number of students enrolled in Session 2015-16 is as follows: -

Undergraduate Programme		Postgraduate (Master/Ph.D)
942	Civil Engineering	481
960	Mechanical Engineering	309
973	Electrical Engineering	391
557	Computer & Info. Systems Engineering	145
545	Electronic Engineering	542
560	Industrial & Manufacturing Engineering	497
280	Urban Engineering	41
277	Textile Engineering	35
275	Computer Science & Information Technology	484
213	Automotive Engineering	1
254	Biomedical Engineering	34
167	Materials Engineering	33
210	Architecture & Planning	69
279	Telecommunication Engineering	94
179	Petroleum Engineering	Chemistry 85
267	Metallurgical Engineering	Earthquake Engineering 16
197	Polymer & Petrochemical Engg.	Environmental Engineering 134
128	Food Engineering	Humanities 100
85	Construction Engineering	Mathematics 104
284	Software Engineering	Physics 65
337	Chemical Engineering	
155	Applied Physics	
162	Industrial Chemistry	
200	Computational Finance	
68	Development Studies	
89	Management Sciences	
80	Textile Sciences	
35	English Linguistics	

- Graphical view: -

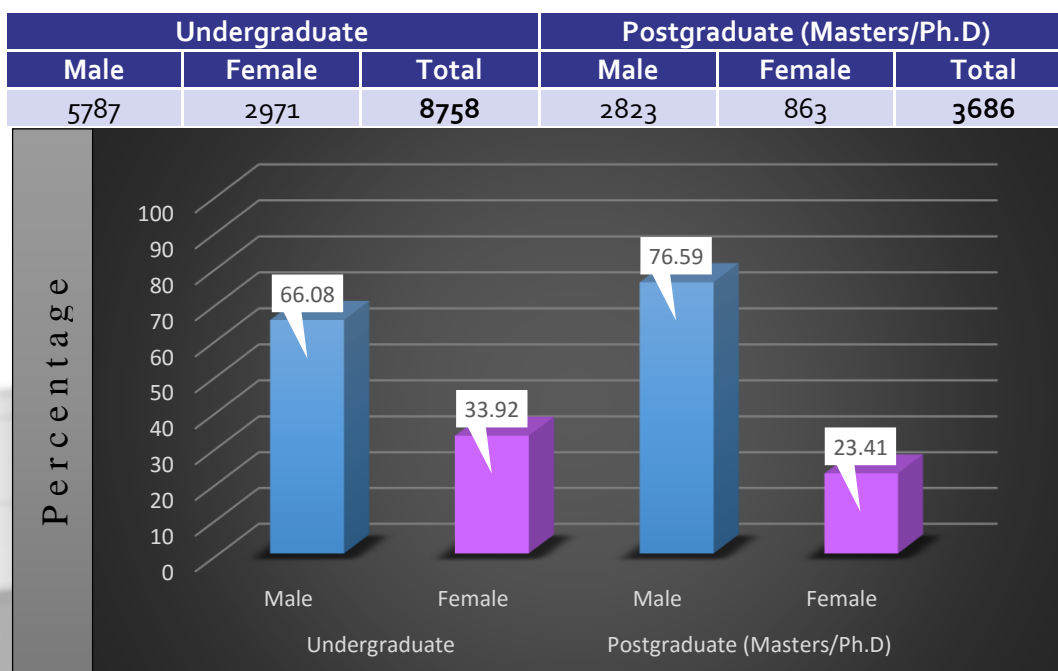


2. Equity

- Merit is exercised at all levels of academic decision-making

3. Gender-wise Detail

- The gender wise detail is presented in the following table.



4. Employability

- Approximately 75% of the students from Batch 11-12 are currently employed.

5. Faculty Student Ratio

- Total Student : 8758
- Total Faculty : 450
- Faculty Student Ratio is 1:19.4

Chapter – 6



UNIVERSITIES BUILDING ECONOMIES

Universities Building Economies

1. University-Industry Linkage

1.1 Department of Electrical Engineering

In 2015, total 188 internships were offered. 70 scholarships worth Rs. 1.771 million were offered to the students of Electrical Engineering Department. 10 visits of undergraduate students were arranged during whole year.

1.2 Department of Petroleum Engineering

Department maintains a well-established linkage with the Petroleum Industry through presence of Petroleum Advisory board of the Department.

The following benefits are being received:

- Visiting Faculty for teaching core courses.
- Internships for students.
- Final Year Projects Supervision.
- Visits to field/ sites.
- Funding for Lab Equipment.
- Free Industry Standard Softwares.
- Professional lectures & Seminars.
- Job Placement.
- Orientation Program of Faculty.
- Financial support to students for local & foreign visits.

1.3 Department of Biomedical Engineering

Students have been completed their internships at the following institutes;

- Dow Diagnostic and Research Laboratory
- National Center for Proteomics, University of Karachi
- Dr. A. Q. Khan Institute of Biotechnology & Genetic Engineering, University of Karachi
- The Aga Khan University Hospital
- Darul Sehat Hospital
- KIRAN Hospital
- Dr. Ziauddin Hospital
- Liaquat National Hospital
- The Indus Hospital
- The Kidney Centre
- Tabba Heart Institute
- Memon Medical Institute
- M/s Universal Enterprises Pvt. Ltd.
- Analytical Measuring Systems Pvt. Ltd.
- Hospital Supply Corporation
- Allmed Solution
- Technology Links
- Noor International
- Biotech Pakistan
- BIOS
- SIUT
- Sindh Medical Store
- Afzaal Memorial Thalassemia Foundation
- PCSIR Laboratories Karachi
- M/s Mediquips Pvt. Ltd.

1.4 Department of Computer Science & I.T.

Projects for Final Year are secured from the IT industry. Many companies offer projects for participation by groups of students and also serve as external supervisors and external examiners. Also alumni frequently come forward to conduct workshops on latest trends in professional software development. The Department contacts executives from companies to engage them in discussion and get their input and feedback on its graduates.

Undergraduate students of the Department worked on projects proposed by the Anti-Car Lifting Cell (ACLC) which are in use by the ACLC. The ACLC has appreciated the efforts.

1.5 Department of Automotive & Marine Engineering

Faculty members of the department are involved in solving problems related to Industry. The Final year projects assigned to students are mostly based on the Industrial problems and there is always an external advisor from Industry along with internal faculty advisor.

The department of Automotive Engineering is involved in the MPV-1 (Multi-purpose Vehicle) project of DICE (Distinguished Innovations, Collaboration & Entrepreneurship) foundation USA. Several final year student projects have been completed with the help of expatriate's Pakistani working in the automotive sector of USA. MOU between PAAPAM and NED University is in process that will open doors for better Industrial linkage.

1.6 Department of Polymer & Petrochemical Engineering

Engro Polymers & Chemicals, Beltexco Limited, BASF Chemicals and Polymers, Tripack Packages Ltd, Fauji Fertilizer Bin Qasim, Alsons Auto Parts, Shield Corporation Ltd are supporting the Department in term of providing books and equipment and allowing our students for industrial visit and internship. The General tire and Rubber Company and A-One Tech Industries are also providing necessary support to the Department for final year projects.

1.7 Department of Food Engineering

- Final year students have visited "Hafeez Packages (Pvt.) Ltd." along with Faculty members on 9th Oct. 15.
- Final year students have visited "National Foods" along with Prof. Dr. Farzana Yasmin on 14th Oct. 15.

1.8 Department of Metallurgical Engineering

For the continuous up-gradation and improvement of the metallurgical engineering industry and academics, the University-Industry relationship must be strengthened. This goal can be realized by the exchange of ideas between the two institutions in the form of sending students to the industry for internship and final year project and inviting industries to the department for presenting their processes and technical problems and benefiting from labs for carrying out applied research work.

1.9 Office of Research, Innovation & Commercialization (ORIC)

International Mou between ORIC, NEDUET & Plan 9-Pakistan Largest Technology Incubator by Pakistan Information technology Board signed dated 01-03-2016

1.10 Department of Materials Engineering

The University-Industry Linkage is an innovative concept in Pakistani educational institutions whereby the university establishes formal linkages with the industry in order for bother parties to mutually grow. At the Department of Materials Engineering of NED University, this concept is taken very seriously and students are encouraged to spend their Third and Final year summer holidays interning at any industry which has offered placements. The industry in-turn gets to have any problems that they might be facing, solved, by offering it to students as projects. In this way, the students learn first-hand, the practical applications of engineering, and the industry benefits from having cutting edge solutions developed specially for them, thereby ensuring mutual growth in all sectors.

1.11 Department of Mathematics

Roll. No.	Name	Place
CF-13030	M. Waqas Yaseen	SUPARCO
CF-13050	Affrah Khalid	Marie Stopes Society
CF-13053	Syed Aun Raza Zaidi	SSGC
CF-13040	Amin ur Rehman	SSGC
CF-13007	Farrukh Malik	Silk Bank
CF-13002	Noor Hussain Warsi	Toyota

1.12 Department of Mechanical Engineering

Name of Industry	
Alsons Industries Pvt. Ltd (Dynamic Balancing) 2015	
Final Year Design Project 2015	
Lucky Cement	MAPAK
Auvitronics Limited	ARAMCO
SEM Engineers	
Internships Summer / Winter 2015	
Amreli Steels Ltd.	Gul Ahmed Textile
Asia Petroleum	HEJ KU
Crescent Steel	HMC
MIDAS Safety	Iffco Pakistan
Novatex Ltd.	Indus Motor Company
Pakistan Meteorological Department	K-Electric
Pipelink Construction (Pvt.) Ltd.	Lucky Cement
Pak Suzuki	Mal Pakistan
PAC Board Amra	Mari Petroleum
Ali Brothers & Forging	NESPAK
PIA Engineering Karachi	OGDCL
National Engineering Services Pakistan (Pvt) Ltd.	Orient Energy (Pvt.) Ltd.
International Automotive Engineers (Pvt.) Ltd.	Pak Aviation
Loads Limited	Paragon (Pvt.) Ltd.
Atlas Honda (Pvt.) Ltd.	Peoples Steel
Pakistan Steel Mill	Byco Petroleum (Pvt.) Ltd
Karachi Shipyard & Engineering Works Ltd.	PSO
Hinopak Motors Ltd.	SSGC
Pakistan Machine Tool Factory (Pvt.) Ltd.	Universal Cables
Artistic Milliners (Pvt.) Ltd.	WAPDA
Karachi Tools Dies & Moulds Centre	Water World International
Govt. of Sindh (Alternate Energy Department)	Shann Technologies
Pakistan Water & Power Development Authority	Amna Industries
CAA	Pak Hy Oils Ltd
Dawalance (Pvt) Ltd.	Exide Pakistan
Agri Auto	Solarkaz International
Allied Engineering	Siddiqsons (Pvt.) Ltd
Descon (Pvt.) Ltd.	IAEPL
Fatiam Fertilizer	IITC-Hyundal Elevator
FFBL	Atlas Battery Ltd.

Name of Industry	
FFC	Atlas Engineering
Gatron Industries	Aga Khan Hospital
General Tyre & Rubber Co	Byco Petroleum Ltd
Tapal Tea (Pvt.)	

1.13 Department of Urban & Infrastructure Engineering

The following table summarizes the internship status for the reporting period.

Summer Internships

Merit Received	Total of Self & Merit Received	Self Received	Merit & Self Utilized
36	69	33	46
70	93	23	52

Winter Internships

Merit Received	Total of Self & Merit Received	Self Received	Merit & Self Utilized
85	93	8	44
35	36	1	12

1.14 Department of Electronic Engineering

Name of Industry	Research Projects
Asia Petroleum Limited	<ul style="list-style-type: none"> Design and Development of Wireless SCADA System. Design and Development of efficient and cost saving Fire Detection Alarm System for MW Solar Power Project Design and Development of efficient and cost saving Cleaning Mechanism for Solar Power Project
Karachi Institute of Power Engineering (KINPOE) KNPC	Design and Development of Digital Hardware based Reactor Power Controller for Nuclear Power Plant
Switchgear & Automation	<ul style="list-style-type: none"> Power Factor Improvement Panels ASD and DOL Starters Energy analysing through Digital Network Analyser

2. New Initiatives

- The Department of Biomedical Engineering is planning to establish an advisory board for the improvement of academic programme and to sign an MoU with The Indus Hospital & SIUT for academic collaboration.
- The prerequisite for protecting IP's is not generally known by the common person in the country, hence NED University and ORIC realized the significance of setting up an IP office with in the campus to accommodate and facilitate the IP makers. Initial working for the IPO has been done and received formal approval from Vice Chancellor of NEDUET. Office of Research, Innovation and Commercialization is aiming to achieve this objective before 31st, June 2016.
- As per HEC requirements, HEC backed Incubators will be established in the institutions where ORIC will show satisfactory performance, based upon the NED University's ORIC's last two year performance Business Incubation Center at NED University of Engineering & Technology has been established with the support provided by Higher Education Commission of Pakistan in November 2015. The incubate companies having scope of conversion into startup companies go through a stringent process of selection.

4. The Department of Computer Science & I.T. has initiated a programme of offering short courses having professional significance. This year short course workshops conducted were Application Development with Java, Web Development with PHP-LAMP, and Android App Development. Further courses of interest to students are under consideration. Such short courses would help to generate additional revenue for the University.
5. The department of Automotive Engineering is planning to organize a 2-days event named 'DICE-Automotive 2016' scheduled to be held on 28-29 December 2016 at NED University of Engineering & Technology, Karachi.
6. The Department of Electronic Engineering has recently come up with the following initiatives:
 - The department is involved with DICE foundation USA on his DICE car project.
 - Holding of student project competitions, SPEC, event.
 - Renovation of the departmental building
 - Launching of WIFI facilities in departmental library and deptt building.
 - Expansion of PhD programme
 - Holding of research conference in December 2016.

3. Final Year Projects

A to Zee Engineering	Liaquat National Hospital
Artistic Milliners (Pvt) Ltd.	National Medical Center
Asia Petroleum Limited	NiXaam
Bolan Casting	Novatex Limited
Byco Petroleum Ltd.	O.B.S Pakistan Private Limited
Central Depository of Pakistan Limited	Pakistan Petroleum Limited
Elaj Trust	Pakistan Steel Mills
Embedded Technologies	PCSIR
General Tyre & Rubber Co.	Peoples Steel Mills Ltd.
H.Nizam Din & Sons (Pvt) Ltd.	Schneider Electric
IITC-Hyundai Elevator Pakistan	SGS Pak (Pvt) Ltd.
Indus Hospital	Siddiqsons Limited
Indus Motors Company Ltd.	Siemens Pakistan
K-Electric	Switchgear Automation & Services
KINPOE	Tabba Heart Institute
English Biscuit Manufacturer (EBM)	Dawn (Golden Harvest)
Dalda - Tapal	Pearl Confectionary HOM
HOM - Pepsi	Shan Foods
Pearl Confectionary	K & Ns

4. On campus hiring

System Ltd.	Digitel Engineering
Nixaam	Cyber Net Pakistan
Gaditek	Clipsal Pakistan
EMPACT	Pak Suzuki Motors
Baritech SOL (Pvt) Ltd.	Inter Wood Mobel
Ten Pearls	Engro Corporation
Yamaha Motors	KSBL
Hilal Foods (Pvt) Ltd.	Atlas Honda
Elastica (Pvt) Ltd	Alsons Group
Avanza Solutions	OBS Pharma
Inbox Technology	BASF Pakistan

Mixit Technologies	Telenor Pakistan
TRG Tech	Philip Morris
Philips Morris	GSK
Corezee Technologies	Arpatech
NetSol Technologies	System Ltd.
Nixaam	Karsaz (PVT) Ltd.
Dawlance	Bulleh Shah Packaging
PSO	Thal Engineering
Fatima Group	Horizon Softech
Indus Motors	K-Electric

- 70 % of the graduated students have been employed in the following industries

Abbas Group of Companies	KRL
Jink Kwang JAZ	KONPOE
Artistic Mill. Pvt Ltd.	PIEAS
Aisha Steel Mill Ltd	ARY
Al Tuwairqi Steel Mill	Toyato
Orient Automotive	Shaheen Air Line etc.
Peoples Steel Mills Ltd. Karachi	Agha Steels Ltd Karachi
Pakistan International Airlines Karachi	Amreli Steels (Pvt) Limited
Alsons Industries Pvt. Ltd. Karachi	AuVitronics Limited
Dawood Yamaha Pvt. Ltd. Hab Baluchistan	Atlas Engineering Ltd Karachi
Bolan Casting Ltd. Karachi.	Abbas Steel
SGC Inspection Ltd. Karachi	IIL Industries Ltd.
Indus Motors Ltd Karachi	Unilever pvt. ltd
Tuwairqi Steel Mills	SGS Pakistan
Hinopak Motors Ltd.	NED University of Engineering & Technology
Dawood University of Engineering & Technology	

5. Internship

- The following table shows the number of students of the dept. completed their Internship in summer and winter in different Industries.

Industry Name	Number of students		Total
	Summer	Winter	
Atlas Honda	6	-	6
Dewan Motors.	3	-	3
Ghandhara Nissan	1	-	1
HinoPak Motors.	11	10	21
Karachi Tools, Dies & Moulds	1	-	1
Loads Limited	2	1	3
Master Motor Corporation	4	-	4
Pak Suzuki Motors Company	8	-	8
PIA Engg	3	-	3
Schneider Electric	2	-	2
Karachi Shipyard	-	6	6
Total	41	17	58

- Department of Computer Science & I.T. Internship for third year students of both BS (CSIT) and B.E. (Software) programmes was arranged jointly by DIL and CSIT Department in the following companies / organizations:
 - Abbasi Shaheed Hospital (KMC), Ali Brothers Forging, Habib Bank Limited, Karachi Metropolitan Corporation IT Department, Pakisatn Steel Mills Corporation Pvt Ltd., PIA Engineering Karachi, PIA-IT, Pakistan Tele Vision (PTV), Siemens Pakistan, Pakistan Meteorological Department, Saad Salman Corporation, Meezan Bank, General Tyre & Rubber Co., Convex Pvt Ltd., CDC Karachi, Suparco.

B.E. (Software) Summer: 22 internships, Winter: 15 internships
BS (CSIT) Summer: 29 internships, Winter: 14 internships
- The Department of Metallurgical Engineering: Internship for Third Year students are arranged during Summer / Winter Vacations in various related Industries mainly Peoples Steel Mills Ltd., Pakistan Steel Mills, Bolan Castings Limited, Atlas Engineering, PIA, Pakistan Ordnance Factory, IIL, Amerli Steel, Landhi Engineering and Pakistan Machine Tool Factory.
- Directorate of Industrial Liaison of the NED University help in placement of students for internship, searching industrial project for final year students and coordinating with industries for the job prospects of the graduates.
- Materials Engineering Department as well as Directorate of Industrial Liaison of the NED University also helps in placement of students for internship, searching industrial project for final year students and coordinating with industries for the job prospects of the graduates. Six batches of B.E (Materials Engineering) have passed out in 2010 to 2015. Approx. 70 to 80% of graduates are successfully employed in various Materials industries and other institutions. Internships for students are arranged during summer / Winter Vacations in various Materials Engineering related Industries.
 - Internships for students during 2015-16.

BYCO ltd.	General Tyre and Rubber company.
Atlas Engineering	Pakistan International Airlines.
Amreli Steels Ltd.	Hussain Engineering works pvt ltd.
Karachi Shipyard.	OGDCL Pakistan
Lucky Aluminum Ltd.	Shabbir Tiles Pvt. Ltd.
Pakistan Steel Mills.	Heavy Mechanical Complex Taxila
SSGC Pakistan.	Tri Pack Films Ltd.
Pakistan Machine Tool Factory.	

- Department of Mechanical Engineering; Internships are arranged during summer and winter vacations in third year. The internships are offered by a large number of private and public sector organizations. 163 Students of T.E (Mechanical) of batch 2012-13 were offered summer internships during 2015 at different organizations.
- 94 students of T.E (Mechanical) of batch 2012-2013 were offered winter internships during the same year at different organizations.

- The office of Director Industrial Liaison (DIL) is providing opportunities of internships and jobs to the students through strong linkages with several industries. Following is the list of some industries where our students are either working or doing their internships.

Alsons (Pvt.) Ltd.	AgriAuto Industries Ltd.
Auvetronics Limited.	Biltexco.
Yousuf Industries.	Procon.
Vision International.	Atlas Honda.
Taha Engineering (Pvt.) Ltd.	Balochistan Engineering Works.
Noor Engineering. Services (Pvt.) Ltd.	Omer Jibran Engineering.
Lumen Engineering.	Siemens Pakistan Engineering Co.
R & D Engineering.	Simcon International (Pvt.) Ltd.
SASA.	Seimens Pakistan Ltd.
Hino Pak.	British Petroleum.
Dawood Yamaha Ltd.	Tetra Pack.
Deewan Motors.	National Power.
Shell Pakistan Ltd.	BOC Pakistan.
Indus Motor Company Limited.	SUPARCO
Master Motors Ltd.	Pakistan State Oil
Pak Suzuki Ltd.	

- Department of Industrial & Manufacturing (IMD) provides Industrial visit to 3rd & 2nd year engineering students of IMD. This year the department has arranged visits in the following industries;

Toyota Inc	23/Feb/2016
Hinopak Motors Ltd.	24/Feb/2016
Hinopak Motors Ltd.	2/Mar/2016
Yamaha Motorcycles Company Ltd.	8/Mar/2016
K-Electric, Bin Qasim Plant	17/Mar/2016
English Biscuits Manufacturer Pvt. Ltd.	19/Mar/2016

- During last one year graduate students of Electronic Engg. Department have been hired either on basis of on Campus Recruitment or independent job placement in several companies. Some of the companies are listed below:

Company Name	Company Name	Company Name
Iqra University	PTCL	Indus University
AB Engineering	HBL	Cyber Internet
Colwiz Pakistan	K-Electric	ICPL – Dolmen Group
Corezee Technology	SUPARCO	Telto Pak
Wavetec	NRL	Engro Polymer & Co
Peoples Steel Mills	Multinet	Novartis
TRG	Habib University	Pafkiet
Cyber Internet Services	Bahria University	Future Tech:
Engro Fertilizer	Aligarh University	Wi-tribe

- Department of Telecommunications Engineering:**

Summer internship 2015:

Total number of Students in Third Year Telecommunications Engineering: 66

Total number of internships available: 53 (from various organizations)

Winter internship 2015:

Total number of Students in Third Year Telecommunications Engineering: 66

Total number of internships available: 30 (from various organizations)

- **Department of Textile Engineering:**

The office of Director Industrial Liaison (DIL) is providing opportunities of internships and jobs to the students through strong linkages with several industries. Textile Engineering Department also arranges summer internships for the third year students. The following textile industries of Karachi are in close contact with different faculty members of the department in order to arrange the internships and also give final year projects.

Gul Ahmed Textile Mills Limited	Popular Fabrics (Pvt) Ltd
Yunus Textile Mill	Clariant Pakistan (Pvt) Ltd
Lucky Textile Mills	Naveena Denim
Al-Karam Textile Mills Limited	Indigo Textile (Pvt) Ltd
Afroze Textile Industries	Alabbas Fabrics (Pvt) Ltd
Feroze Textile Industry (Pvt) Ltd	Kasim Denim Industries

- Students of First Year (Textile Science), visited Gatron Industries on 07 and 13-10-2015.
- Students of Second Year (Textile Engineering), visited Archroma Pakistan on 07 and 10-10-2015.
- Student of Second Year (Textile Science), visited Amna Industries on 02 and 04-02-2016.
- Student of Third Year (Textile Engg.), visited Feroze1888 Mills Ltd (weaving unit) on 04 and 11-02-2016.
- Student of Final Year (Textile Engg.), visited Feroze1888 Mills Ltd (spinning unit) on 03 and 17-03-2016.
- Student of Third Year (Textile Engg.), visited Afroze Textile Mills on 15 and 16-03-2016.
- Student of Second Year (Textile Engg.), visited Gatron Industries on 22 and 24-03-2016.

6. Students' Scholarships

4.1 Merit / Need-cum-Merit / Merit-cum-Need Scholarship

Scholarship	Students	Amount
Amount already received from the Sponsor	54	Rs. 1803022/- (1.8 m) approx
Expected / Extrapolated Amount to be Received from the Sponsor	683	21843810 (21.8 m) approx
Total	737	23646832 (23.6 m) approx

Name of the Students	Amount	Scholarship
Ahsan Mehmood S/O Mehmood Iqbal	Rs.20000/-	NED Scholars Scholarship 2015
Javeria Ali D/o Imtiaz Ahmed	Rs. 15,000/-	Abdul Hafiz Khan Scholarship Financial Asst. 15
Atiba Khan D/o Afzal A Khan	Rs. 25,000/-	Syed Jawaid Akhtar Memorial Scholarship
Abdul Wadood S/o Ata Muhammad	Rs.18000/-	Punjab Educational Endowment Fund (PEEF) Scholars Stipend 2015 Sindh.
Abdul Wadood S/o Ata Muhammad	Rs.18000/-	Punjab Educational Endowment Fund (PEEF) Scholars Stipend 2015 Sindh.
Abdul Wadood S/o Ata Muhammad	Rs.18000/-	Punjab Educational Endowment Fund (PEEF) Scholars Stipend (Sep-15 to Feb-16) Sindh.

Name of the Students	Amount	Scholarship
Asad Saeed Khan S/o Muhamamd Saeed Khan	Rs. 29260/-	Renewal of Abdul Waheed Khan and Asghari Khanum Memorial Scholarship 2015.
Usama Gulzar S/o Gulzar H.	Rs. 29260/-	Renewal of Koshish Foundation Scholarship 2015
Ansar Ahmad S/o Gulzar Ahmad	Rs. 29260/-	Renewal of Abdul Waheed Khan and Asghari Khanum Memorial Scholarship 2015.
Aliza Hashmi S/o Naseemulhashmi	Rs. 29260/-	Renewal of Koshish Foundation Scholarship 2015
Sania Khan D/o Nusratullah	Rs.2,856/-, Rs 1500/-	Directorate of Colleges and Higher Education Baluchistan Quetta
Sania Khan D/o Nisarullah	Rs. 15,000/-	RENEWAL OF Mentoring Scholarship 2015 by International Steels Limited.
Muhammad Abdullah S/o Muhammad Mobin Siddiqui	Rs.30000/-	Ingredion Educational Foundation Scholarship by (A Division of Scholarship America)
Reeba Khan D/o Asim Khan	Rs.30000/-	Ismat Shafi Khan Scholarship 2015
Ammara Nisar D/o Nisar Ahmed	Rs.52250/-	Renewal of Professional Education Foundation
Urooj Fatima D/o Atiqad Haider	Rs. 30000/-	Renewal of Professional Education Foundation Scholarship 2015
Sidra Mujahid D/o Abdul Karim Mujahid	Rs: 29260/-	Renewal of Professional Education Foundation
Basra Hafeez Ur Rehman D/o Hafeez Ur Rehman	Rs. 29260/-	Renewal of Professional Education Foundation Scholarship 2015
M.Kumail Ali S/o Mahmood Ali	Rs: 29260/-	Renewal of EdifAid Scholarship 2015
Almas Sahar D/o Shams Uddin	Rs. 29260/-	Ingredion Educational Foundation Scholarship by Scholarship Management Services. (A Division of Scholarship America)
Humaira Rana D/o Rana Anwer	Rs. 14,630/-	Renewal of Professional Education Foundation Scholarship 2015
Ammara Nisar D/o Nisar Ahmed	US \$ 500/-	Ismat Shafi Khan Scholarship 2015
Faiza Khan D/o Changez Khan	Rs. 29260/-	Renewal of Pakistan Engineering Congress Scholarship Graduate Level
Muhammad Bilal S/o Malik Shah	Rs. 30000/- / 15000/- 2nd Installment	Renewal of EdifAid Scholarship 2015
Fatima D/o Syed Wasiyaut Ali Jafri	Rs. 14,630/-	RENEWAL OF Mentoring Scholarship 2015 by International Steels Limited.
Areeba Jalal D/o Jalaluddin Haider	Rs. 29260/-	Ingredion Educational Foundation Scholarship by (A Division of Scholarship America)

Chapter – 7



STRENGTHENING OF PHYSICAL INFRASTRUCTURE

Strengthening of Physical Infrastructure

1. Development Projects (Laboratories, Libraries, etc)

1.1 On-Going Project

i. Development scheme entitled "Strengthening of NED University of Engineering and Technology".

The scheme was approved with total cost of Rs. 2,193 million. The total amount released was Rs. 2143.624 million up to 31-03-2016 and Rs. 1865.357 million has been utilized so far. The PSDP 2015-16 for this scheme is Rs. 136.962 millions, out of which Rs. 87.586 million have been received. The item-wise expenditures are as under:

Sr. No.	PC-I Item	PC-1 Cost	Expenditures up to 30-06-2014	Expenditures in 2014-15 (upto 31-03-2015)	Estimated Expenditures April – June 2015	Total Expenditures Rs in Million
1	Laboratory Equipment	678.803	623.403	18.074	0.000	641.477
2	Human Resource Development Programme	847.000	543.238	39.559	5.000	587.797
3	Buildings	307.370	323.727	0	0.000	323.727
4	Computing and Networking facilities	120.578	87.688	6.939	0.000	94.627
5	Books & Journals	9.000	8.816	0	0.000	8.816
6	Improvement of Electrical Power System	44.400	41.281	0	0.000	41.281
7	Furniture	23.034	17.643	1.733	0.500	19.876
8	Air-Conditioning	7.205	7.031	0.003	0.000	7.034
9	External Development	54.400	53.667	0	0.000	53.667
10	Water Proofing & Renovation of old buildings at Main Campus (Academic & Hostels)	10.000	5.781	0	0.000	5.781
11	Telephone Exchange	3.000	3	0	0.000	3.000
12	Vehicles	14.000	13.821	0	0.000	13.821
13	Project Directorate	20.000	19.154	0.02	0.020	19.194
14	Building Consultancy	14.471	14.048	0	0.000	14.048
15	Contingencies and Unforeseen	39.739	36.478	0.253	0.000	36.731
Total		2193.000	1798.776	66.581	5.520	1870.877

ii. The Project "Commencement of New Engineering Programs and Infrastructure Development" was approved by CDWP in its meeting held on 28.04.2015 with capital cost Rs. 750.697 million. The minutes of meeting were issued on 20.8.2015. The original PSDP 2015-16 allocation for this project was Rs. 400 million and revised PSDP is Rs.550 million.

The Project was designed to introduce new areas of Teaching and Research in response to Market's demands and projections of future needs of Pakistan along with to significantly increase enrolment at undergraduate and postgraduate degree programmes. The objectives of the scheme are:

- Development of Infrastructure of the Department Electrical Engineering to offer Postgraduate programme in Smart Grids in Electrical Energy
- Development of Infrastructure of the Department Polymer & Petrochemical Engineering to offer Postgraduate programme in Polymer Engineering.

- Development of Infrastructure of the following relatively new Engineering Programmes under Department of Civil Engineering:
 - a. Postgraduate programme in Engineering Construction Management
 - b. Postgraduate programme in Earthquake Engineering
- To enhance the capacity of the University to increase the intake at undergraduate programme from 1,865 in 2010-11 to 2,717 in 2016-17.
- Providing Laboratory Equipment, Computing Facilities, books, furniture and necessary buildings to various disciplines.
- Strengthening of Physics and Chemistry Laboratories to cater increased enrolment at undergraduate level.
- Enhancement of facilities for Departments of Civil, Mechanical, Electrical, Chemical, Polymer & Petrochemical and Bio-Medical Engineering to meet the increased enrolment and new post graduate programmes.
- Improving Utilities & Services

Sr. No.	PC-I Item	PC-1 Cost	Expenditures up to 30-06-2015	Expenditures in 2015 (upto 31-03-2016)	Estimated Expenditures April – June 2016	Total Expenditures
1	Laboratory Equipment	512.907	--	--	512.907	512.907
2	Infrastructure including top supervision and escalation	174.391	--	--	1.462	1.462
3	Computing & Networking Facilities	22.850	--	--	22.850	22.850
4	Furniture / Fixture	21.809	--	--	--	--
5	Books & Journals	5.000	--	--	5.000	5.000
6	Project Co-Ordination Unit	6.300	--	--	--	--
7	Contingencies & Unforeseen @1%	7.440	--	--	--	--
Total		750.697	--	--	542.219	542.219

1.2 List of Laboratories

Atmospheric Distillation Unit ASTM D 86	Reid Vapor Copper Strip Tester ASTM D 323
Reduced pressure Distillation – ASTM D 1160	Corrosion of Copper Strip Tester ASTM D 130
Flash point Tester – ASTM D 93	Balance Analytical Type
Cloud and Pour Point Tester – ASTM D 97	Depantanization of Gasoline and Naphtha by PONA ASTM D 5006
Vapor Pressure of LPG – ASTM D 1267	Sulphure and Chlorine Determination Bomb Method ASTM D 129
Density by Pressure Hydrometer ASTM D 1657	Hydrocarbon by Fluorescent indicator Adsorption ASTM D 1319
Aniline Point Tester - ASTM D 11	Smoke Point Tester STM D 1322
Carbon Residue by Conrad on – ASTM d 189	Penetrometer, Penetrometer of Petroleum Products
Doctor Test ASTM D 4952	Volatility and Residue of LPG, ASTM D 1837
Oxidation Stability Tester ASTMD D 525	

Following laboratories are in the department equipped with sophisticated equipment:

- Lab-I Combustion and Emission Lab: Hydra Engine Test Bed, Rotronics Engine Test Bed, Exhaust Gas Analyzer, Chassis Dynamometer, Single Cylinder Transparent Engine, suspension Tester, Out Board Engine (cut-away).
- Lab-II Suspension & Drives Lab: Four Post Lifter, Car Fault Diagnostic system, Wheel Balancer, Wheel Aligner, Cutaway model for Engines, brake system, suspension system.

- Lab-III Auto-Electronics Lab: Auto-Electronics Simulators, Auto-Electronics experimental modules based on sensors and actuators used in automobile instrumentation, Automobile Electric Systems study unit, Automobile Air Conditioning unit.
- Lab-IV Electronics & Instrumentation Lab: Basic Electronics Unit, Multipoint ignition and injection system, Simulators, Refrigeration A/C Simulators.
- Fuel Cell Lab: Fuel Cell Testing System from ARBIN, Gas Chromatograph, Fuel Cell experimental module and pressure composition isotherm (PCI) measurement unit.
- Computer Lab: Fully equipped with state of the art computing facilities and the most sophisticated Engineering Software.

Research Equipment

The Department of Computer Science & I.T. maintains five (05) computer laboratories that are utilised in conducting practicals for the undergraduate and MS programmes in courses where required or desired. There is also a dedicated Project Lab for Final Year students of BCIT. There are 5 servers and around 180 workstations distributed within these labs. Every year new PC models are inducted per availability of funds.

Name of Laboratories	Name of Laboratory Incharge
Computer Lab-I, II, III, IV & V and a Server Room	Mr. Muhammad Ejaz Yunus <i>IT Manager (Jr. Executive)</i>
Lab I : Database Lab	Mr. Mehboob Ahmed
Lab II : General Purpose Computing Lab	Mr. Imran Sheikh
Lab III : Artificial Intelligence Lab	Mr. Amjad Ali
Lab IV : Graphics Lab	Ms. Nazish Saleem
Lab V : Networking Lab	Ms. Noor Afshan Vasty
Project Lab.	Ms. Noor Afshan Vasty

The Department of Metallurgical Engineering:

Laboratory Name	Equipment
Metallography Laboratory	<ul style="list-style-type: none"> • Cutting Machine • Mounting Press • Focipol Grinder, Polisher • Automatic Grinding Polisher • Micracut 125 • Ultra sonic cleaning unit • Desiccater • Blower • Compressor • Magnetic stirrer • Weighing balance
Optical Microscopy Laboratory	<ul style="list-style-type: none"> • Metallurgical Microscopes • Stereo Microscope • Image analyser • Welding Expert • Desiccator
Computer Laboratory	<ul style="list-style-type: none"> • Desktop Computers
Materials Deterioration lab	<ul style="list-style-type: none"> • Humidity Chamber • D.C Powe Supply • Salt spray tester • Computerized Potentiometer • Water Distillators
Inspection, Testing and Quality Laboratory	<ul style="list-style-type: none"> • Rockwell Hardness Tester • Vickers Hardness Tester • Knoop Hardness Tester • Fatigue Testing Machine • Tensile Testing Machine • Impact Testing Machine*
Heat Treatment and Sintering Laboratory	<ul style="list-style-type: none"> • Box Furnace 1200°C and 1400°C • Controlled Sintering Chamber Furnace 1600°C and 1700°C • Sintering Chamber Furnace 1700°C
Investment Casting Lab	<ul style="list-style-type: none"> • Vulcanizer • Wax Injector • Investment Vacuum Mix • Burns Out Drying Oven • Induction Furnace • Stainless Steel Casting Furnace • Magnetic Tumbler • Weighing Balance
Sand Testing Laboratory	<ul style="list-style-type: none"> • Metric Mould Strength Testing • Green Compression Strength Machine • Permeability Meter
Mechanical Working Lab	<ul style="list-style-type: none"> • Laboratory Rolling Mill* • Wire Drawing Machine* • Extrusion Machine* • Forging Setup*

*These equipment are in procurement stages

Sophisticated equipment like Scanning Electron Microscope, X-Ray Diffractometer and High Speed Ball Mill are also used for research purpose.

Department of Materials Engineering the following labs was established and equipped with latest sophisticated equipment's.

Name of Laboratories	Name of Laboratory Incharge
Metallography Lab	Engr. Muhammad Faizan
Optical Microscopy	Engr. Syed Mohsin Jafri / Engr. Danish Majeed
Heat Treatment Lab	Engr. Muhammad Faizan
Hardness Testing Lab	Dr. Muhammad Sohail
Materials Testing Lab	Dr. Muhammad Sohail
Non Destructive Testing Lab	Dr. Muhammad Sohail
Scanning Electron Microscopy Lab	Engr. Danish Majeed
Rapid Alloy Analysis Lab	Dr. Muhammad Sohail
Thermal Analysis Lab	Engr. Muhammad Faizan
Magnetic Materials Lab	Engr. Humair Ahmed Siddique
Surface Engineering	Engr. Muhammad Faizan
Corrosion Lab	Engr. Muhammad Faizan
Advanced Ceramic Materials Lab	Engr. Humair Ahmed
Composite Materials Lab	Engr. Muhammad Faizan
XRD Lab	Engr. Syed Mohsin Jafri
Nano Materials Lab	Engr. Humair Ahmed
Joining of Materials Lab	Engr. Muhammad Faizan
Powder Characterisation Lab	Engr. Humair Ahmed
Advance Materials Processing Lab	Engr. Danish Majeed
Advanced Coatings Lab	Engr. Muhammad Faizan
Computer Modelling and Simulation Lab	Engr. Nuzhat Afreen
Impact Testing Lab	Dr. Muhammad Sohail
Carbon Sulphur Analysis Lab	Dr. Muhammad Sohail
Equipment Maintenance Laboratory	Engr. Muhammad Faizan

Department of Urban & Infrastructure Engineering

The following table summarizes the new inductions in the department's inventory of equipment for teaching and research.

Item Name	Quantity
Sony Multimedia	1
DELL Laptop	1
Nikon Automatic Level	1

Department of Civil Engineering

Department of Civil Engineering is striving for its infrastructure development. There is a complete management system to run the laboratories for academic, research and commercial purposes. The laboratory management details are given below. All the laboratories are in full use throughout the year.

Laboratories	Supervisor	Name of laboratory in-charge
Engineering Mechanics	Dr. Muhammad Aslam Bhutto Assistant Professor	Mr. Fawwad Masood Assistant Professor
Hydraulics & Fluid Mechanics	Prof. Dr. M. Shafqat Ejaz Professor	Dr. Haider Hasan Associate Professor
Soil Mechanics	Prof. Dr. Amanullah Marri Professor	Prof. Dr. Amanullah Marri Professor
Engineering Geology Lab.	Mr. Salman Hameed Siddiqui Associate Professor	Dr. Sadaf Qasim Assistant Professor
Material Testing Lab.	Prof. Dr. Abdul Jabbar Sangi Professor	Mr. Amir Nizam Sr. Lab. Engineer
Concrete Lab.	Prof. Dr. Abdul Jabbar Sangi Professor	Mr. Amir Nizam Sr. Lab. Engineer
Undergraduate Computer Lab.	Dr. Huma Khalid Associate Professor	Mr. M. Shahzad Raza Ali ITM (JS)
Postgraduate Computer Lab.	Prof. Dr. Rizwan Ul Haque Farooqui Co-Chairman	Dr. Mukesh Kumar Associate Professor
Water Resources Lab.	Prof. Dr. Syed Imran Ahmed Professor	Dr. Arjumend Masood Associate Professor

Laboratories	No. of Students using the Lab	
	Spring Semester	Fall Semester
Water Resources Lab.	260	-
Hydraulics & Fluid Mechanics	210	300
Soil Mechanics	300	300
Geology Lab.	-	260
Material Testing Lab.	380	150
Concrete Lab.	100	380
Engineering Mechanics Lab.	230	130
Undergraduate Computer Lab.	878	878
Postgraduate Computer Lab.	160	250

Department of Petroleum Engineering

Following research equipment are being procured under the Norwegian Funded Project:

- Gamma Ray Core Logger & Core Photo System
- Dynamic Linear Swell meter
- Compositional Analyzer (GC)
- Gas & Oil Sampling Bottles

Department of Mechanical Engineering

Name of Laboratories	Name of Laboratory Incharge
Solar Energy	Engineering Mechanics
Fluid Mechanics	Internal Combustion Engines
Heat Transfer	Steam Generations & Steam Turbines
Vibration & Acoustics	Gas Dynamics
Energy Conservation	Material Testing
Hydrogen Energy	Machine Dynamics & Design
Water Desalination	Materials & Metallurgy
Computation Laboratory	Workshops (Fitting, Carpentry, Machine & Fabrication)

List of Equipments

Equipment Description	Year
Multi Pump Testing Rig	2012
Fluid Friction Measurement	2012
Comprehensive Flow Meter	2012
Twist and Bend Machine	2013
Machinery Fault Transfer Models HTM 90.1 to 90.14	2013
Simple Bearing Housing M-HTM-96	2013
Sectioned Steering MACH-M-HTM-20	2013
Assembly Project Check Valve M-HAK-14	2013
Cam Follower Apparatus (HTM-81)	2012
Gyroscope Apparatus (HTM-70)	2012
Extension & Compression of Spring	2012
Inclined Plane & Sliding Friction Apparatus	2012
Whirling Shaft Apparatus (HTM-67)	2012
Torsional Vibrational Apparatus (HTM-13)	2012
Desktop Computer Core i7	2012
Desktop Computer Core i5	2012
HP LaserJet P2035	2012
Internal Combustion Engine Test Stand C-100	2012
Computer Controlled Two-Shaft Gas Turbine	2015

The Department of Biomedical Engineering: Bids have already been invited for "Import of Laboratory Equipment" under Project Mega-IV.

1.3 New Project

- i. The Project entitled "Development of Department of Food Engineering at NED University of Engineering and Technology, Karachi" was prepared with following objectives:
 - o Construction of building for Department of Food Engineering
 - o Providing Laboratory Equipment, Computing Facilities, books, furniture and other facilities to Department of Food Engineering.
 - o Strengthening of Infrastructure Facilities and utilities
 - o Construction of Boys Hostel to accommodate 120 students

The Project with cost Rs. 360 millions was submitted to Department of Education & Literacy, Government of Sindh. The department forwarded the PC-1 to Department of Planning & Development, Government of Sindh for further processing. The Planning and

Development Department has forwarded the PC-1 to CM Secretariat. The PC-1 was also submitted to Deputy Secretary (Universities and Boards) on 30-06-2015. The copy of the PC-1 has also been forwarded to Section Officer (Universities), Chief Minister Secretariat on October 1, 2015.

The Project did not come on the agenda of Technical Committee Meeting. The Project is not included in ADP 2015-16. In this regard several meetings were held with the following Officials of Government of Sindh.

- Meeting with Sindh HEC chaired by Dr. Iqbal Durrani Secretary (U&B) on 28.10.2015
- Meeting with Mr. Gahanwer Ali Leghari Additional Secretary (U&B) on 08.12.2015
- Meeting with Dr. Iqbal Durrani Secretary (U&B) on 09.03.2016

ii. The Project entitled **“Dr. Ishrat ul Ebad’s Green Campus Initiative, NED University of Engineering and Technology, Karachi”** was prepared with following objectives:

- Implementation of green technology;
- Reduction of Carbon Emissions - 365 Metric tons/per annum
- Earnings – by trading Carbon Credits;
- Savings for GOP-1 MW electricity inclusion in grid approx.. needs one million US\$ investment;
- Savings for NED University – Rs. 25 million /annum in electricity bills;
- First Green Campus in Pakistan – R&D Role model for others in Green Technologies;
- Project replicable in other institutions of Sindh;
- Practical implementation of Smart Grid/Distributed Generation and smart grid integration.
- It will help to generate business and employment in renewable technology area
- It will produce experts/consultants to implement the same abroad especially in third world countries.

The Project with cost Rs. 200 million was submitted to Department of Education & Literacy, Government of Sindh. The department forwarded the PC-1 to Department of Planning & Development, Government of Sindh for further processing. Project is not included in ADP 15-16.

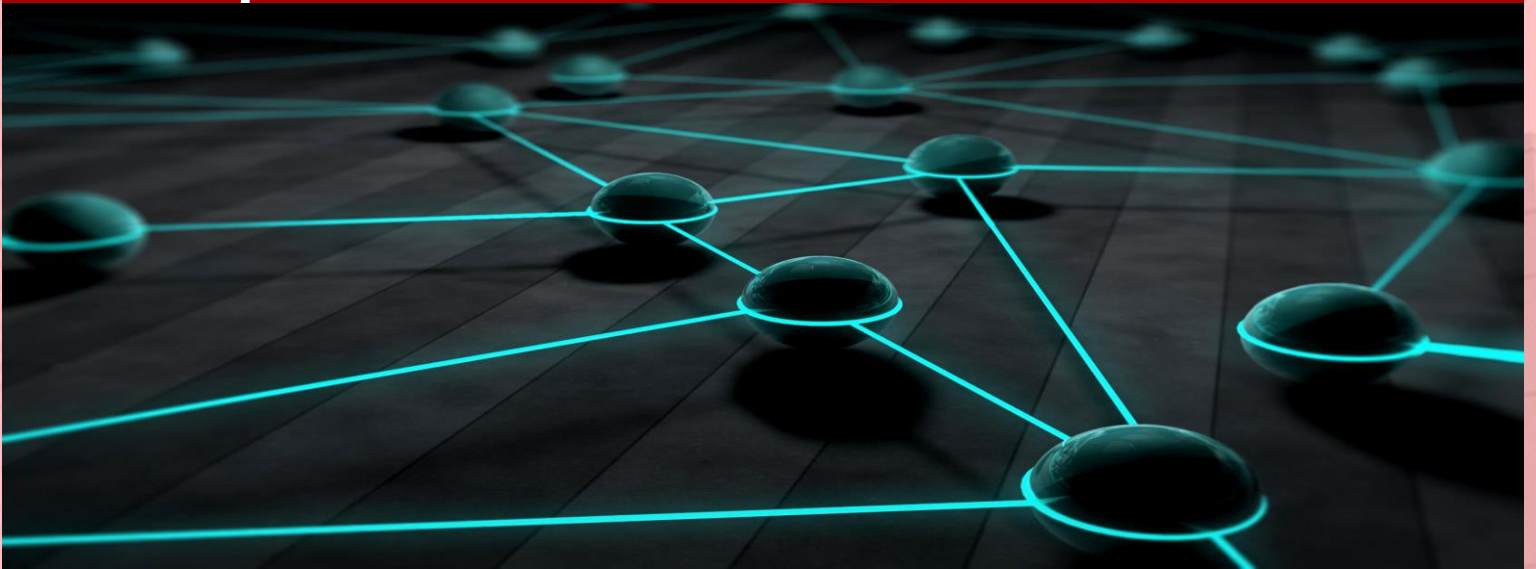
iii. PC-1 under preparation.

A meeting with Dr. Iqbal Durrani Secretary (U&B) held at Chief Minister Secretariat on 09.03.2016 to discuss the Projects to be included in ADP 2016-17. On Request of D(P&P), the Secretary (U&B) agreed that University may submit a Project costing around Rs. 350.0 million for Strengthening and Upgradation of Under graduate Laboratories. Accordingly the Brief Project Description for new Project entitled “Strengthening & Upgradation of Undergraduate Laboratories of NED University” alongwith Justification has been sent to Secretary (U&B). The Projection Justification is as follows:

Project Justification

The NED University of Engineering and Technology, Karachi providing engineering education to entire Country particularly Sindh. The three basic / mother disciplines viz Civil/Electrical/Mechanical Engineering required revamping to undertake the load of increase enrolment and to meet the requirement for Pakistan Engineering Council for accreditation. Presently in most of the Laboratories of these departments, only minimal to moderate laboratory facilities are available. The basic equipment are in use of about 10-15 year or so, hence outlived their lives. However, during last few years as a result of some grant, in few laboratories the condition is slightly improved nevertheless , order to bring these Laboratories at park with similar laboratory to located in a moderately development country, considerable inputs are necessary. Further new Academic Block including classrooms, laboratories, faculty offices are urgently needed to meet the increase enrolment. The electrical power system and external development also needed resources for providing better facilities and services to the students.

Chapter – 8



STRENGTHENING TECHNOLOGICAL INFRASTRUCTURE

Strengthening Technological Infrastructure

The NED University started its Information Technology services in 1999 which later on evolved into the establishment of Information Technology Department (ITD) in March 2010. The ITD has played a pivotal role in developing the varsity's I.T. infrastructure providing robust Information Systems, Communication and High Performance computing facilities to its users within the university and outside it. Equipped with state of the art equipment backed by fiber optic core network, the Information Technology Department acts as the I.T. hub.

1. Digital Library

With a view to increase the access to scientific literature for institutions in Pakistan, the Higher Education Commission of Pakistan launched the National Digital Library in February 2004.

The NED University has access to the following resources;

1.1 E-Journals

- **Subject Specific Resources (08/14)**
 - 1. American Association of Physics Teachers (AAPT) Premium
 - 2. American Institute of Physics (AIP) Premium
 - 3. American Society of Mechanical Engineers (ASME) (Full Access) Premium
 - 4. American Society of Civil Engineers (ASCE) (Full Access) Premium
 - 5. Association of Computing Machinery (ACM) (Full Access) Premium
 - 6. American Society for Testing & Materials (ASTM) *NEW* Base
 - 7. Institute of Electrical & Electronics Engineers (IEEE) (Full Access) Premium
- **Multi-Disciplinary Resources (07/08)**
 - 1. Elsevier-Science Direct Premium
 - 2. NRC Research Press Journals Online Base
 - 3. Science Online Premium
 - 4. Springer LINK Base
 - 5. Taylor & Francis Base
 - 6. Wiley-Blackwell Base
- **Health Sciences (01/02)**
 - Royal College For Physicians Base
- **Management Sciences (01/02)**
 - Institute For Operations Research And The Management Sciences (INFORMS) Base
- **Social Sciences & Humanities (02/05)**
 - University of Chicago Press Base

1.2 E-Books (01/04)

- 1. Ebrary
- 2. McGraw Hill's Access Engineering
- 3. McGraw Hill's Access Science

These resources can be accessed from any workstation within the university campus where internet access is available and through NEDUET Dial Up from outside the university.

2. PERN

The main Internet connectivity of NEDUET is facilitated by PERN. Details of NEDUET LAN and its operations utilising PERN are as under;

Links	Speeds
Inter Campuses Connectivity (Metro LAN)	1 Gbps (Optical Fibre)
Local Area Network Inter-departmental	1Gbps (Optical Fibre)
Intra-departmental	10/100/1000 Mbps (Copper UTP/STP)
Wide Area Network Optical Fibre (PERN ₂)	120 Mbps (Optical Fibre–PERN ₂)

2.1 Network services at NEDUET

▪ NEDUET – ISP

The Information Technology Department provides 24 x 7 high-speed Internet access to its LAN users. Further, a traditional dial up service is also available for internet usage. ITD's Network Operation Centre (NOC), is built on state-of-the-art equipment comprising of enterprise level routers, security & traffic management appliances and a variety of servers running customised applications.

▪ Metro – LAN

The first ever in public educational sector, a 37 km Optical Fibre Metro Area Network (MAN), "The NEDUET Metro-LAN" currently connects NEDUET's Main, LEJ & City Campuses, thus creating a massive learning network.

▪ NEDUET-WiFi Network

Keeping pace with the modern technology, NEDUET offers WiFi connectivity to its users with Campus-wide coverage powered by captive portal, the iAccess. Thus providing its user accessibility to LAN and WAN services on all their WiFi enabled mobile devices along with authentication, accounting services and other useful information.

▪ Email Service

NEDUET offers Email service to its employees. The Email server is deployed in the NEDUET NOC and has up to 1950 accounts. State of the art Email Gateway security has also been deployed for protection against threats.

2.2 Ongoing Projects/Activities

▪ Up gradation of Network Operations Centre (NOC)

The NEDUET is upgrading its NOC to near Tier 3 standard. Currently the project is going through tendering process.

▪ Extension of Optical Fibre LAN

The NEDUET Optical Fibre based LAN is being segregated further by providing separate fibre links to VC secretariat, Registrar Office, Examination Department, Dean's Offices, Medical Department, Girls Hostel and Foreign Faculty Residence facilitating them with data traffic & infrastructure isolation.

2.3 Completed Projects/Activities

▪ Development of Module in Admission System for Real Time Connectivity with Banks

An enhanced Online Admission System for prospective undergraduate students was launched successfully in admissions 2015-16. A new module was included which keeps real time connectivity with banks' ERP for candidates' fee receipts.

- **Development of Postgraduate Feedback Online Module:**

A postgraduate feedback collection online module has been developed and an MIS to generate various KPI reports over the received feedback.

- **Development of Online Module to upload Minutes of meeting and related papers of Statutory Bodies. It was also Objective 2K15 of ITD.**

- **Enhancement in Online Undergraduate Feedback System and related statistical reports due to changes in survey form.**

- **Development of Registration Module for DICE 2015.**

- **Development of Research projects MIS for ORIC and its online module for end user to update research projects on portal**

- **Enhancement in ISO document MIS to send change alerts via email**

- **Online Semester Registration of Undergraduate students was enhanced to be completed in two phases. Phase I handled provisional admission before result declaration and then Phase II of final course registration after result declaration.**

3. **Video Conferencing**

A centrally-located Video Conferencing Facility Centre connects NEDUET, locally and internationally for the arrangement of virtual classes, conferences, seminars, Internet meetings (video conferences) among multiple locations, as and when required. This facility is available round the clock.

4. **Campus Management Solution**

NEDUET Campus Management System aggregates information from various MIS and present it to the end user through single consolidated interface completely personalized and role based in a robust and secure manner. It consists of the following modules;

- Human Resource Management Information System
- Undergraduate Students Management Information System
- Undergraduate Students Attendance Information System
- Postgraduate Students Management Information System
- Internet Billing Software
- Academic Performance Monitoring with online feedback
- Hostel Management Information System
- Registrar Office Notice Board Management Information System
- HTV/LTV Management Information System
- Transport Management Information System (Bus Pass System)
- Medical Department Management Information System which consists of:
 - OPD module
 - Full featured Inventory Management System
 - Radiological and Pathological Information System
 - Billing Scrutiny Management Information System
- Scholarships Management System
- Customer Service Requisition Management System
- Internships Management system
- Online semester registration system for undergraduates and postgraduates
- Online Admission system for fresh undergraduates

- ISO Documents management System and its portal integration
- Online Hostel Accommodation Application System
- MIS for AS&RB and ORIC to manage research papers and research projects information along with online module for end users to update this information

5. Web Portal

NEDUET Campus Management System covers following web portals and above MIS under its umbrella:

- Alumni website and Alumni Administration Interface
- Researcher's Web (An online Manuscript submission software)
- Finance Web Portal
- Examination web Portal
- Library Web Portal

5.1 Ongoing Development

- Enhancement and fine tuning of Online Payment Module in Online Admissions System for Undergraduates to work with banks ERP in real time
- Development of Help desk software for online admissions
- Development of Online survey for NEDUET Journal of Research

6. Development of Online Admission system

- An online subsequent semester registration system has been developed which handles undergraduate and postgraduate student registrations in each semester according to the current regulations
- An enhanced Online Admission System for prospective undergraduate students was launched successfully in admissions 2015-16. Real time connectivity with Bank's ERP was made for fee receipts.

Chapter – 9



UNIVERSITY BUILDING COMMUNITIES

University Building Communities

1. University-Community Interaction

The department of Urban & Infrastructure Engineering advises major community stakeholders, including City government, Motorway police, Indus Motors on related engineering issues.

2. University's Role in Building Community

Department of Urban & Infrastructure Engineering also provides services related to urban issues to the stakeholders such as City Government (CDGK), Construction Industry etc. Department has undertaken several field oriented problems such as Road Maintenance Projects, Road Safety Works etc. Realizing its commitment towards serving the common public, the department recommended necessary remedial measures to above mentioned civic agencies for betterment of current situation.

3. Alumni Affairs

3.1 NED University Alumni Network (NEDAN)

The NED University Alumni Network (NEDAN) was founded in 2004 as a network forum for encouraging promotion of alumni related activities. The forum enabled graduates of the former College as well as the University to initiate their support and activities related to student welfare, academic enhancement and research promotion. Alumni interest and goodwill has been encouraged resulting in the development of intellectual and emotional ties between members and their University.

The Alumni Office -being directly responsible to the Vice Chancellor- will provide range of benefits and services for alumni; cultivate interaction between Alumni. The Office intends bringing all Alumni activities under one umbrella covering all former students and individuals associated with NED University/College and connecting them in effective relationship amongst its members. To extend the spirit of NEDAN, one additional category of Friends of Alumni has been included in the Network in addition to Alumni (only former graduates). The Registrar of the University has been instructed to register Alumni and develop an effective friendly interface on the Alumni Network webpage

Chapter – 10



SPORTS

Sports

1. Inter-University Sports

All Karachi Sports Fiesta 2015

NED University has successfully organized the All Karachi Sports Fiesta on 15th to 18th September 2015 in collaboration with Commissioner Karachi Youth team.

Events	Date and Venue	Result
Cricket (Boys)	15-18 September 2015 & NEDUET	Winner
Table Tennis (Boys & Girls)	15-18 September 2015 & NEDUET	Participated
Throw ball (Girls)	15-18 September 2015 & NEDUET	Winner
Futsal (Boys)	15-18 September 2015 & NEDUET	Winner
Squash (Boys & Girls)	15-18 September 2015 & NEDUET	Participated
Bodybuilding	15-18 September 2015 & NEDUET	Winner
Volley ball (Boys & Girls)	15-18 September 2015 & NEDUET	Winner

Sadia Siddiqui Memorial Intervarsity Girls Badminton Tournament

NED University has participated in following event at Sadia Siddiqui Memorial Intervarsity Girls Badminton Tournament.

Events	Dates	Result
Badminton (Girls)	12-10-2015	3 rd Position

7th Inter Faculty Students Boys & Girls Championship 2015

DSA/Sports Section has organized the following Inter Faculty Students Championship 2015 at Boys & Girls Gymnasium.

Events	Dates
Table Tennis (Boys)	5 th October to 26 th October 2015
Basketball (Girls)	
Volleyball (Boys)	8 th October to 29 th October 2015
Throw ball (Girls)	

Defense Day Football Tournament

NED University Football (Boys) team has participated at Defense Day Football Tournament organized by University of Karachi.

Events	Dates & Venue	Result
Football (B)	11 September 2015 & University of Karachi.	Winner

Invitational Intervarsity Cricket (Boys) at Malaysia

Events	Dates & Venue	Result
Cricket (Boys)	22 nd to 26 th December 2015	Winner

Inter University Competition 2015-16.

The following teams of NEDUET have participated in Zonal & All Pakistan Championships organized under the auspices of Higher Education Commission (HEC) Islamabad. The results of events are as under:

Events	Date and Venue	Result
Table Tennis (Boys) Zone-G	20 th & 21 st January 2016 at IoBM Karachi.	Participated
Football (Boys) Zone-G	20 th to 22 nd January 2016 at University of Karachi.	Semifinalist
Cricket (Boys) Zone-G	8 th to 11 th February 2016, at Iqra University, Karachi.	Runner Up
Badminton (Boys) Zone-G	3 rd to 5 th March 2016, at Hamdard University	Winner
Volley ball (Boys) Zone-G	4 th & 5 th April 2016 at IBT, Karachi.	Participated
All Pakistan Intervarsity Cricket (Boys) Final Round.	20 th to 24 February 2016, at COMSAT, Islamabad.	Participated
All Pakistan Intervarsity Badminton (Boys) Final	3 rd to 5 th April 2016 at NUST, Pindi.	Semifinalist

1st Inter University Sports Gala at Pakistan Marine Academy.

NED University has participated in following events at 1st Inter university Sports Gala, Pakistan Marine Academy 2016:

Events	Dates	Result
Table Tennis	25-02-2016	Winner
Football	25-02-2016	Participated
Cricket	25-02-2016	Participated
Table Tennis	25-02-2016	Participated
Volley ball	25-02-2016	Participated
Tennis	25-02-2016	Participated
Athletics	25-02-2016	Participated
Tug of War	25-02-2016	Participated

IBA SPORTS GALA 2016

NED University has participated in Invitational tournament on following events at IBA Sports Gala 2016, organized by IBA University Karachi.

Events	Dates	Result
Basketball (Boys)	9 th to 14 th February 2016	Winner
Volleyball (Boys & Girls)	9 th to 14 th February 2016	Participated

Maju Inter Karachi Chess Championship 2016

Events	Dates	Result
Chess (Boys)	26 th March 2016	Participated

19thNED University, Inter Departmental Games 2016.

DSA/Sports Section is going to organize NED Interdepartmental Games 2016 from 14th March 2016 to date:

Boys Events	Girls Events
Volley Ball (Boys)	Table Tennis (Girls)
Cricket (Boys)	Badminton(Girls)
Badminton(Boys)	Squash (Girls)
Body Building (Boys)	Throw Ball (Girls)
Football (Boys)	Volleyball (Girls)
Basketball (Boys)	Basketball (Girls)
Athletics (Boys)	Chess (Girls)
Squash (Boys)	
Table Tennis (Boys)	
Chess (Boys)	
Tennis (Boys)	



Students of Electrical Engineering Department participated / competed in following events and also secured the positions.

- Intersivity Football (Boys) Zone-G Championship 2015-16 (Winner)
- Intersivity Cricket (Boys) Zone-G Championship 2015-16 (Runner Up)
- Intersivity Cricket (Boys) Championship 2015-16 (Final Round)
- NEDUET Inter Departmental Badminton (Boys) Championship-2015 (Winner)
- Intersivity Cricket (Boys) Zone-G Championships 2015-16 at Iqra University (Runner Up)
- Intersivity Cricket (Boys) Championships 2015-16. Final Round at Islamabad. (Participated)
- Students of Telecommunication Engineering participated in various national level sports competitions organized by various organizations. A summary is provided below
 - All Sports league Karachi 4th position 2016
 - Throw-ball finalist 2016
- NEDUET Inter Departmental Volleyball (Boys) Championship 2015-16 (Participated)
- NEDUET Inter Departmental Football (Boys) Championship 2015-16 (Participated)
- NEDUET Inter Departmental Cricket (Boys) Championship 2015-16 . (Runner UP)
- NEDUET Inter Departmental Basketball (Boys) Championship 2015-16 (Participated)
- NEDUET Inter Departmental Throw ball (Girls) Championship 2014-15 (Participated)



- Department of Telecommunications Engineering; participated in NED Inter-Departmental Games 2015-16, organized by the Student Affairs Department. They competed in volleyball, football, table tennis, squash, badminton, Cricket, Throw ball, chess, long tennis, rally race and Basketball. Following is a summary of achievements
 - ASME sport throw-ball inter department Third Position 2015
 - Tennis champion inter department 2015 (Maliha Arif batch 11-12)
 - Semi finalist inter depart Football tournament 2015
 - Quarter final inter depart Volley ball tournament 2016
 - Tennis Champion 2016 inter department (Muneeb-ur-Rehman batch 12-13)

- The BS(CSIT) and B.E. (Software) students participated in various interdepartmental sports competitions including Football, Badminton, Athletics, cricket and basketball. Ahsan Javed and Owais Abdulla Madda, both Second Year BS(CSIT) students, represented the University in Badminton and Cricket respectively.
- Students of Food Engineering have participated in the following Inter Departmental Sports events:
 - Cricket (Boys) Championship 2015
 - Badminton (Boys) Championship 2015
 - Table Tennis (Boys) Championship 2015
- Following Students of Automotive Engineering Department participated in NEDUET Inter-departmental Games 2015:
 - One student of Second Year participated Basketball Zone-G (Boys) Championship 2014-15.
 - One Student of Second Year participated in Table Tennis (Boys) Zone-G Championship 2015-16.
 - One Student of Second Year participated in Table Tennis (Boys) Championship 2016 at Marine Academy.
 - One Student of Third Year participated in Lawn Tennis (Boys) Championship 2016 at Marine Academy
 - Two Students of Final Year and Third Year (ATD) participated in NEDUET Inter-departmental Badminton (Boys) Championship 2015.
 - Twelve Students of Final Year, Third Year and First Year (ATD) participated in Inter-departmental Cricket (Boys) Championship 2015.
 - Sixteen Students of Final Year (ATD) participated in NEDUET Inter-departmental Football (Boys) Championship 2015.
 - Three Students of Second Year and Third Year (ATD) participated in NEDUET Inter-departmental Table Tennis (Boys) Championship 2015.
- A cricket team of Department of Chemical Engineering played an interclasses cricket match. Students also participated in and Basketball match of the University.
- Department of Physic's cricket team played an interclasses cricket match. Students also participated in and Basketball match of the University.
- A departmental cricket team of Department of Physics played an interclasses cricket match. students also participated in Basketball match of the University.
- B.E. students of Metallurgical Engineering along with faculty members participated in "INTER AND INTRA DEPARTMENTAL SPORTS" usually arranged by CSA like volley ball, cricket and badminton.
- M. Huzeifa Moin B.E (Mechanical) and M. Hanzala Moin participated in Intervarsity Badminton (Boys) Zonal & Final Round Championship 2015-16
- Mr. Muhammad Rizwan B.E (Mechanical) participated in Inter University Cricket Championship 2014-15.
- Mr. Muhammad Rizwan B.E (Mechanical) participated in IBA Sports League 2015.
- Department of Industrial & Manufacturing; Counter Strike and Fifa 2015 as the games for competition. Cash Prizes were allocated (February 10th 2015)

- Department of Industrial & Manufacturing; A relaxing and refreshing trip for the students from SME and department collaboration (Dream World Resort - May 25th, 2015)
- Department of Electronic Engineering
NEDUET Inter Departmental Cricket (Boys) Championship 2016.
- NEDUET Inter Departmental Football (Boys) Championship 2016.



- NEDUET Inter Departmental Basketball (Boys) Championship 2016.
- NEDUET Inter Departmental Volleyball (Boys) Championship 2016.
- Inter University Football (Boys) Zone-G Championship 2015-16 at Karachi (Participated)
- Inter University Cricket (Boys) Zone-G Championship 2015-16 at Karachi (Participated)
- Inter University Cricket (Boys) Championship 2016 Final Round at Karachi (Participated)
- Winners are awarded by gold medals and runners up by silver and bronze medal. Captains are awarded by shields.
- Winners are awarded by gold medals and runner's up by silver and bronze medal. Captains are awarded by shields.

2. International Sports 2015

- Invitational Tournament Cricket (Boys) at Malaysia 2015 (Winner)
- NEDUET Inter Departmental Cricket (Boys) Championship-2016



Chapter – 11



UNIVERSITY BUILDING LEADERSHIP

University Building Leadership

1. Faculty Leadership (Awards and Representation in Govt. Policy making Committees, memberships on various Councils etc.)

- This has been the tradition of the Department of Civil Engineering to play a leadership role in various National and International forums. Department of Civil Engineering always encourages their faculty members to participate actively at various platforms.
- Most of the faculty members of the Department of Civil Engineering having live membership in the following councils:
 - Pakistan Engineering Council (PEC)
 - Institute of Engineers Pakistan (IEP)
 - American Concrete Institute (ACI)
 - Earthquake Engineering Research Institute (EERI)
 - American Society of Civil Engineers (ASCE)
 - International Institute of FRP in Construction (IIFC)
- Dr.-Ing. Syed Mushahid Hussain Hashmi, Chairman of the dept. nominated as Member of Technical Committee for Repair & Renovation works of Transport (HTV) of the NEDUET.
- Dr.-Ing. Syed Mushahid Hussain Hashmi, Chairman of the dept. nominated as Member of Regulation Committee for Introduction to Semester System of Undergraduate Program.
- Dr.-Ing. Syed Mushahid Hussain Hashmi, Chairman of the dept. has been a Member of Advanced studies and Research of DHA Suffa University.
- Ms. Yasmeen, Lecturer is the member of Duty Society at NEDUET.
- Mr. Assad Anis, Asstt. Prof. and Dr. Amir Qureshi, Asstt. Prof. are the peer reviewers of International Journal of Engineering & Sciences – UK.
- Three Faculty members of the Department, Prof. MM Rafi, Prof. RA Khan and Dr. Mukesh Kumar are HEC approved supervisors. Prof. MM Rafi is also a member in ACI-440 committee, American Concrete Institute committee on Fiber-Reinforced Polymer Reinforcement. Prof. RA Khan is a local council member of Institution of Engineers Pakistan, IEP- Karachi center.
- PhD exam at University of Karachi was conducted by Prof. Dr. Farzana Yasmin as an external examiner held on August, 2015.
- A PhD thesis from Institute of Food Science and Technology, SAU, Tandojam was evaluated by Prof. Dr. Farzana Yasmin on September, 2015.
- Faculty members are serving on the HEC National Curriculum Revision Committee, and committees of other universities upon their request. Faculty member also served as paper setter and examiner for KYP Public Service Commission examination for Computer Science

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- paper, and on selection committee for Sultan Qaboos IT Chair, Ministry of Information Technology.
- Faculty members actively participated workshops and symposiums. One faculty member attended the “Entrepreneurship Educators Symposium” in March 2016. With the affiliation of Usman Institute of Technology with NED University, faculty members are serving on their Board of Studies of Computer Science Department, and also on the UIT Selection Board.
 - Dr. Muhammad Mubashir Khan proceeded on study leave for Post Doc research at Leeds University, UK, under the HEC’s programme.
 - The CSIT Department is a member of the Oracle Academy having free access to a wide range of Oracle products for educational purpose. Faculty are also members in IBM Academic Initiative, Microsoft Faculty Programme, ISACA Academic Membership. Department has also collaborated with Microsoft in its Curriculum Integration programme and its various activities.
 - Members of Committees on Transportation projects under Transport Department, GoS.
 - Road Accident Investigation expert committee formulated by Federal Ministry of Communication, Islamabad.
 - Active participation in Urban Issues awareness programmes, with IUCN and UNDP.
 - Senior Faculty participated in:
 - Dialogue on Urban Mobility and Transport
 - Political dialogue on Sustainable Transportation Project “Commuting with dignity”
 - Project Management Institute (PMI) activities
 - School zones safety and security issues
 - Mr. Mumtaz Hussain Qureshi, Assistant Professor attended the Entrepreneurship Workshop held w.e.f 21-03-2016 to 22-03-2016 at AMAN CED IBA, Karachi.
 - On 22-01-2016 Dr. Mubashir Ali Siddiqui, Professor attended the Selection Board Meeting at DHA Suffa University.
 - Dr. Anjum Khalid, Professor visited to Institute of Aviation Technology, PAF on 21-01-2016.
 - Dr. Mubashir Ali Siddiqui, Professor visited to Pakistan Marine Academy (PMA) on 13-01-2016
 - Ms. Erum Khan, Assistant Professor attended the “International Visitors Leadership Program (IVLP) Single Country Projects (SCP): Education Employability and Entrepreneurship” at United State of America w.e.f 17-08-2015 to 07-09-2016.
 - Dr. Mubashir Ali Siddiqui, Professor attended the Selection Board Meeting at DHA Suffa University on 11-08-2015.

- On 03-08-2015 Dr. Mubashir Ali Siddiqui, Professor attended to assist the Federal Public Service Commission for recruitment to the Posts of Mechanical Engineering in Pakistan Railways.
- Workshop on "Fabrication of Dye Sensitized Solar Cells" Thursday and Friday, March-2-3, 2016.
- Dr. Irfan Ahmed, Associate Professor, attended National Curriculum Revision Committee Meeting in Telecommunication System at HEC, Lahore.
- Dr. Irfan Ahmed, Associate Professor, is serving as controller of examinations of NED University.
- Dr. Irfan Ahmed Associate Professor Served as reviewer for "IEEE-Antenna & Wireless Propagation Letters (AWPL)".
- Dr. Irfan Ahmed Associate Professor Served as reviewer for "Adhoc & Sensor Wireless Networks Journal"
- Dr. Muhammad Imran Aslam, Associate Professor, is serving as reviewer for the "IEEE transactions on Wireless Communication"
- Dr. Muhammad Imran Aslam Associate Professor, serving as reviewer for the "Progress in Electromagnetic Research"
- Dr. Muhammad Imran Aslam, Associate Professor, is serving as reviewer for the "Journal of Modern Optics"
- Dr. Muhammad Imran Aslam, Associate Professor, served as session secretary in the 31st all Pakistan IEEEEP student seminar, Karachi
- Dr. Syed Abbas Ali was granted PhD degree, at the university convocation 2016, after completing all statutory requirements.
- Koshish Foundation Research Lab at CISE received DAAD funding in collaboration with German Research Centre for Artificial Intelligence.
- 1st Pak-German Workshop on Smart Irrigation was organized in collaboration with German Research Centre for Artificial Intelligence where faculty and researchers from national and international organizations participated.
- Three undergraduate students, Muhammad Yaseen Aftab, Syed Suleman Abbas Zaidi and Yusra Shahid were selected for three-months summer internship at German Research Centre for Artificial Intelligence.

- The department organized several seminars, workshops, CACHE hardware software competition and a poster exhibition for Final Year students.
 - A new Masters programme titled MS (Data Engineering & Information Management) has been approved by Academic Council of the university. The program will be offered from Fall Semester 2016.
 - The faculty members of DAP-NED continued to provide professional and consultancy services to the various developmental projects of the University. The summary of the same is as under:
 - Karachi Heritage Building Re-Survey Project Prof. Dr. Anila Naeem
 - The students of department of Petroleum Engineering presented students papers in following conferences:
 - Middle East Oil & Gas Show and Conference, 8-11 March 2015, Kingdom of Bahrain
 - SPE Asia Pacific Student Chapter Conference, 25-30 Oct 2015, Malaysia
 - SPE-PAPG Annual Technical Conference, 25-26 Nov 2015, Islamabad, Pakistan
 - International Petroleum Technology Conference & Exhibition, 06-09 Dec 2015, Qatar.
- 2. Students Leaderships (Co-curricular Activities: University Dramas, exhibitions, Expose, Competitions, Debates at National and International levels) (new)**
- 2.1 Co-curricular Activities**
- Final Year students (Batch 2011-12) have participated in exhibition Dawn Education expo project exhibition at expo center presented their following final year project held on 6th February 2016.
 - Control of fabricate a robotic arm for sorting of various spoiled and solarized food commodity according to their color complexation.
 - Self-contained food warming.
 - An event of SPEC 2016 was organized by the students of Electronic engineering dept. on 17th March 2016
 - 66 students of Third Year Chemistry Department visited (industrial visit) at "Clariant" 22 students per visit on (17th December 2015, 19th January 2016 & 03rd February 2016).

- Department of Mathematics organised a seminar on “Quantitative Finance: Understanding what the Numbers are Telling You” by a member of Microsoft Community, Mr. Naveed Zafar, on 29-01-2016, for all faculty members and students of Computational Finance.



- Department of Mathematics organised a seminar on “Learn to increase your Financial Education” by a member of Karachi Chamber of Commerce Mr. Iqbal Bhabha, on 25-02-2016, for all students of Computational Finance.



- The students of SS(CF) Fasse (CF-63), Arisha (CF-03), Javeria (CF-14), Huda (CF-46), Taha (CF-19), Hasnain (CF-36), Amna (CF-10), Anika (CF-51), Sidra (CF-22), Saman(CF-33), Namra (CF-35), Hibba (CF-18), Amyn (CF-09), Ruba (CF-15), Ehtisham (CF-54) participated in PLEDGE.
- The student of SS(CF) Laiba Amir (CF-15) participated in MOSAIC.
- The students of SS(CF) Ruba Hassan (CF-11), Fasse Paracha (CF-63), Taha Fahim (CF-19), participated in NED RUN.
- The students of SS(CF) & TS(CF) Laiba Amir (CF-15), Fasse Paracha (CF-63), M. Fahad Qazi (CF-14), Nabeela Soomroo (CF-o8) participated in EDIBLE CAR.
- The students of SS(CF) Arisha Eraj (CF-03), Hamna (CF-64), Saman Shahzad (CF-33), Zeerak Ahmed (CF-32) participated in SMEC.

- The student of TS(CF), Muhammad Ateeb (CF-026) got 2nd Position at Karachi University pioneer festival Debate competition.
- The student of TS(CF), Muhammad Ateeb (CF-026) got 3rd Position at all Karachi speech competition, Talent Expo 2015.
- The student of TS(CF), Muhammad Ateeb (CF-026) won Special Prize Inter university debate competition Girls College 11B North Karachi.
- The student of TS(CF), Noor Warsi (CF-02) Served NED entrepreneur ship society as director event management.
- The student of TS(CF), Areeba Raees (CF-20) Working as brand ambassador in NED MUN.
- The student of TS(CF), Maria Murtaza (CF-64) Working as brand ambassador in NED MUN.
- The student of TS(CF), Fatima Shan (CF-09) Participated in NED MUN III.
- Students of food engineering department participated in following co-curricular activities.
 - DICE Virtual Innovation Competition 2015 (NES) held on 14th October 2015 at NEDUET
 - Youth Leadership Conference, held on 11th -14th August, 2015 at Islamabad
 - ACE 15 (ASHRAE) held on October, 2015 at NEDUET.
 - HVACR Exhibition (ASHRAE) held on Februarys, 2016 at Expo Center.
 - Project and Poster Competition (SCHEME) held on 13th October, 2015 NEDUET.
 - Attended 8th Annual Consumer Association of Pakistan, held on 11th February, 2016 at pearl continental hotel, Karachi.
- Students of Polymer & Petrochemical Engineering have established their own society named as "Society of Polymer & Petrochemical Engineering (SPPE)". The society has arranged a sports event in February 2016.
- A team of Third Year Student of Automotive Engineering Department headed by Taimoor Mughal (AU-13039) are planning and working on the project of 'Team-NED Motorsports' and would participate in Formula SAE competition in Hungary in August, 2016. Another team of students has registered this year for Efficiency challenge of Electric vehicles. This is an annual competition for educational institutions organized by TÜBİTAK (The Scientific and Technological Research Council of Turkey).
- The faculty of the Department of Chemical Engineering encourages students to participate in all academic activities.
 - 66 students of Third Year visited (industrial visit) at "Clariant" 22 students per visit on (17th December 2015, 19th January 2016 & 03rd February 2016).

- This year the ACM Student Chapter at NED University was established in April 2016. Students very enthusiastically participated in the launching and plan a number of activities under its auspices.
- One student of 3rd Year BS (CSIT) has gone to METU, Turkey, for one semester under the Erasmus+ short Term Mobility programme.
- **ITEC 2015**
The Department of Computer Science & Information Technology held its 8th ITEC – annual mega IT event on 5th October, 2015. The sponsors included Systems Limited, 10 Pearls, Gaditek and Venturelive. Students from BS (CSIT), BE (Software) and other technologies of NEDUET and other universities participated in this event. The students are working on the ITEC 2015 programme scheduled to be held in the Fall 2015 Semester/Term.
- **Project Showcase 2015**
Following on its success the previous year, the Department of Computer Science & Information Technology organized an exhibition of its students' projects "Projects Showcase 2015" on 17th December 2015. Thirty projects were displayed in the event. Mr. Ayub Butt, CEO of ZRG International, Mr. Salman Khan, GM Nescop Technologies and Mr. Saad Salman, CEO of Galaxy of Leaders (GOL), and other companies including Techlogics, Teltonika, Master Key Systems, Syrix, Calorie Cloud, Sunbonnet and MBS visited the event & appreciated and gave suggestions regarding the projects. The project titled "Parkinson's Disease Management System" was declared as the Best Project. Project Showcase 2015 covered by ARY News, Aaj News, Dawn News and News One.
- Students also participated in Technology Competitions at national and international levels and recorded the following achievements:
 - 1st Position Demo Your Project at ACM NUCES Developer's Day, 2016
 - 1st Position Ten Minutes of Tech Competition at ACM NUCES Developer's Day, 2016
 - 1st Position Innovation Award 2015 at the 4th Invention to Innovation Summit at University of Punjab, Lahore, 2015
 - 1st Position National Innovation Challenge three day Hackaton at Habib University
 - 1st Position Procom 2016, FAST – Ideas to Products.
- Students of Department of Physics are encouraged to take part academic activities of the department and the University.
 - 53 students of Third Year visited "SUPARCO" (12th January 2016).
 - 10 Students attended the workshop "DSSC Dye-Sensitized Solar Cell" at NEDUET. (3rd & 4th March 2016).
 - Applied physics students at Express Education Expo-2015

- Applied Physics students receiving certificate from the Chief Guest at Express Education Expo-2015



- Applied Physics students receiving Memento at Propellair 2015



- Applied Physics students visiting PCSIR Karachi Laboratories



- Industrial Chemistry students attending a seminar on Opportunities for Industrial Chemists in the job market



- Industrial Chemistry Seminars on Plastics and Environment



- In order to instill Leadership and teamwork, department has two societies, run by students and headed by a Faculty Member:
 - TE-Links- the Official Telecom Discussion Forum of NEDUET (In-charge: Dr.Aamir Zeb)
 - CommuniCat- Communication Catalogue, Annual Magazine (In-charge: Ms. Hira Mariam)

Moreover, students enrolled in this programme are highly encouraged to participate in different academic activities/events held in and outside of the University. These activities include Exhibitions, Conferences, Seminars and Workshops. Several Seminars and workshops were arranged by the department itself.

Workshops and Seminars:

Seminars organised by TE-Links (Faculty In-charge Dr. Aamir Zeb, Ms. Komal Masroor):

- Lecture Series in Cellular Networks (Six lectures) by Engr. Adnan Afzal
- Scope of Telecommunication Engineering by Engr. Aurangzaib Alamgir

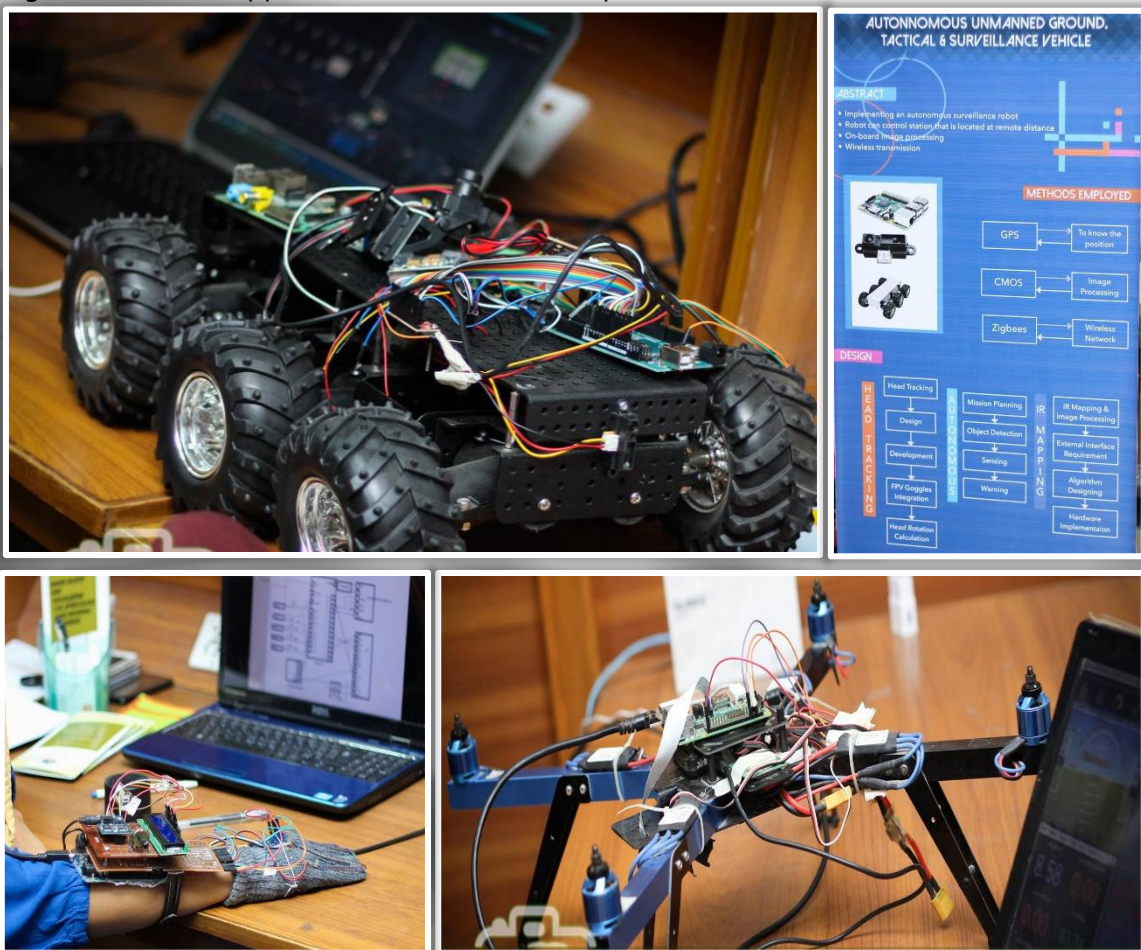
CommuniCat- Department's Annual Magazine:

(Faculty In-charge: Ms. Hira Mariam)

Started in 2008, with the aim of bridging the gap between Telecommunication industry and the academic sector, the eighth edition of Department's annual magazine "CommuniCat" was launched in January 2016. The magazine was circulated in all major Telecommunication Vendor Organizations, Telecom Operator and other related firms as well as to the universities across Karachi offering Telecommunications Engineering courses. All the editions of the magazine have been widely appreciated by various Industrial sectors.

Career Expo 2015:

A team of students from Telecommunications and Electronic Engineering organized Department's Career Expo 2015. It comprised of a Job Fair, FYP Poster Exhibition, Robotics and Marketing plan Competition as well as Counseling sessions regarding higher education opportunities and scholarships.





- Students of Materials Engineering department involved in various extracurricular activities at university level and from departmental platform i.e. NED Materials Society (NMS).
- The NMS is a member driven society consisting largely of students and teachers in the Materials Engineering field. The society draws its strength from these members, many of whom take hands on approach to shaping policy, programming and publications of the society. Students have actively participated in Spring Festival 2015, moreover students also represent in Inter and Intra departmental sports at various levels.
- IMechE arranged an industrial visit to Pakistan Cables Ltd on 29-03-2016.
- ASME-NED student visited to K-Electric, Bin Qasim Power Station-I on 15th and 29th March 2016.
- ASME-NED organized an event "IGNITE" for the students from different universities held on 21st and 22nd, March 2016.
- On 19-03-2016 ASHRAE NED student Chapter arranged an educational visit to English Biscuit Manufactures.
- On 17-03-2016 IMechE student arranged an event on "Bottle Rocket Competition" at NED UET.
- ASHRAE NED student Chapter arranged an educational visit to General Tyres Company Ltd on 17-02-2016.
- ASHRAE NED student Chapter arranged an educational visit to Indus Motor Company (Port Qasim) on 09-02-2016.
- ASME-NED Student arranged an industrial visit to Descon Engineering Works (KMW) Port Qasim on 18th and 23rd, February 2016.
- On 10-02-2016 ASME-NED Student arranged an industrial visit to Karachi Tools Dies & Moulds Centre (KTDMC).

- Third Year (Mechanical) Batch 2013-14 students participated in “NEO ROBOMAZE COMPETITION” held on w.e.f 29th to 31st January, 2016
- ASHRAE NED Student Chapter arranged an educational visit to PSO Plant (Korangi) on 28-01-2016.
- Poster Exhibition of Final Year Projects: A departmental poster exhibition for Final Year Projects of Batch 2010-11 was arranged on Nov 8, 2014. In total 40 projects were presented and were judged by reputed professionals from industry and academia.
- CACHE - 2015: Department organized the annual project exhibition, CACHE, in Spetember 2015 for the second time. The students from Third year and Second year displayed their projects which were judged by professionals from various hardware and software design companies.



Vision Magazine: The department launched the 9th issue of the annual magazine – “Vision” in May 2016. The magazine provides students with an opportunity to express their literary skills and cultivate their creative talent.

Student exchange: Three undergraduate students, Muhammad Yaseen Aftab, Syed Suleman Abbas Zaidi and Yusra Shahid were selected for three-months summer internship at German Research Centre for Artificial Intelligence.

- Students of architecture continued to participate in activities of IAP. They also keenly participated in the various departmental initiatives. The students participated in study visits to Shikarpoor and later Jacobabad with the assistance of Endowment Trust Fund for Culture, Government of Sindh during January – February 2016. The fourth year students staged a historic play – and also prepared a video – titled ‘Malal-e-Hasil’ based on Khilafat Movement in 1919-1922. The play was shown to all architecture student of the City and later shown during student’s event at IAPEx 2016.

- Department of Industrial & Manufacturing Engineering Arranged the following:

Event Name	Type	Date	Venue
Gaming Arena-2015	On-line gaming competition	10-02-2015	CAED Lab –IMD, NED
SME Software Summit	Seminar	03-03-2015	Civil Audio Visual Hall, CED, NED
Forecasting	Seminar	27-03-2015	CIS Lecture Hall, NED
The Pledge 2015	Competition/ Seminar	10-08-2015 11-08-2015	Polymer Lecture Hall, NED
Health and safety workshop	Seminar/Workshop	18-09-2015	Civil Audio Visual Hall, CED, NED
SME Theatre (motivational workshop)	Workshop	22-09-2015	Main Auditorium, NED
Workshop on Business Value Chain Management	Seminar	13-10-2015	CIS Lecture Hall, NED
Overview of Forging Processes from the perspective of Hirschvogel Automotive Group (Germany)	Seminar	29-01-2016	Polymer Lecture Hall, NED
A seminar on Islamic Banking	Seminar	16-02-2016	Polymer Lecture Hall, NED
Gaming Arena-2016	On-line gaming competition	17-02-2016 18-02-2016	CAED Lab –IMD, NED
SMEC 2016 (sales, marketing, engineering and creativity)	Competition/ Workshop/Seminar	25-03-2016 28-03-2016	Main Auditorium, NED

DICE FYP-2015 of NED University

Project Title	Project Advisor	Students Names
Computer-aided process planning and computer-aided manufacturing of Engine Block	Dr.M. Wasif / Mr. Ali Zulqarnain	M. Salman, Shahzad Ejaz M. Fawad Khan, Wajahat Hussain
Design, analysis and development of cam shaft prototype	Dr. M. Wasif/ Ms. Rabia Siddiqui	Noman Zahid Hussain, S. Fakhir Ali M. Umair Anwar, Yawar Hayat
Parametric CAD modeling of engine cylinder block and engine head block	Dr. M. Wasif / Ms. Javeria	Ubaid Ahmed, M. Zaid Khan Fawad Ausaf, Moiz Ul Haq

Details of Events Organized by Department of Students Affairs in Year 2014-15

EVENTS	DATE	Location	ORGANIZERS
Book Fair – 2015	9 th & 10 th February 2015	Near Auditorium	Central Library and Students' Affairs Department
Essay Competition (Bilingual)	18 th February 2015	Lecturer Hall of Humanities Department	Pakistan Society in collaboration with Department of Students' Affairs
SENTEC Boot Camp	25 th February 2015	Video Conference Hall, Civil Engineering Department	SENTEC (Society for the Promotion of Science, Engineering and Technology) in collaboration with Department of Students' Affairs
NED – Debating Conference.	27 th February 2015	NED Auditorium	Debating Society in collaboration Students' Affairs Department
Spring Festival - 2015	05 th March 2015	Convocation Ground	Students' Affairs Department in collaboration with All In-charges of the societies, DOS, PMO D.R.(S&G) and nominated faculty members
Theater Play	16 th March 2015	NED Auditorium	MOSAIC (Members of the Society of Artistic and Intellectual Creativity) in collaboration with Department of Students' Affairs
Girls' Picnic	17 th March 2015	Beach Point	Society for Girls' Affairs in collaboration with Department of Students' Affairs
Seminar on Equation of Content Life	1 st April 2015	Video Conference Hall, Civil Engineering Department	Debating Society in collaboration Students' Affairs Department
Career Counseling "Emerging Subject Areas & Scholarship Opportunities"	13 th April 2015	Video Conference Hall of Civil Engg. Deptt.	Department of Students' Affairs in collaboration with HEC
Lecture of the Consul General of Japan	16 th April 2015	Video Conference Hall of Civil Engineering	Department of Students' Affairs in collaboration with Consul General of Japan in Karachi
Career Opportunities in Engineering	06 th August 2015	Video Conference Hall of Civil Engineering	Department of Students' Affairs in collaboration with Ms. Rukhsana Zubair
All Pakistan Project Competition & Exhibition 2015	11 th to 12 th August 2015	Main Campus	SENTEC in collaboration Students' Affairs Department
Mai Hoon Pakistan	24 th August 2015	NED Auditorium	MOSAIC in collaboration Students' Affairs Department
Art & Craft Exhibition / Poster Presentation	3 rd September 2015	NED Auditorium	MOSAIC in collaboration Students' Affairs Department
Dental Awareness Campaign	10, 14, 24, 28 September 15	Medical Centre	Department Of Students Affairs In Collaboration With Medical Centre
Stamp Design Competition	10 th Sept. 2015	NED Premises	HEC in Collaboration with Students Affairs Department
Pakistan Quiz Competition 2015	11 th Sept. 2015	NED Auditorium	Pakistan Society in collaboration with Department of Student Affairs
Seminar On "Population Issues"	21 st Sept. 2015	Video Conference Hall of Civil Engineering Department.	Government of Sindh, Population Welfare Department in collaboration with Students Affairs Department
Scribe	September Edition	Published	LPS in Collaboration with Students' Affairs Department

EVENTS	DATE	Location	ORGANIZERS
Theatre Play "The 12 Minutes"	7 th October 2015	NED Auditorium	LPS in Collaboration with Students' Affairs Department
Bilingual Literacy Recital - 2015	9 th October 2015	CIS Lecturer Hall	LPS & MOSAIC in collaboration With Students' Affairs Department
Career Development Webinar – Interview Techniques	21 st October 2015	Video Conference Hall of Civil Engineering Department	Students' Affairs Department in collaboration with University Advancement & Financial Assistance
Yom-E-Hussain (R.A)	28 th October 2015	NED Auditorium	Students Affairs Department in collaboration with Students
Breast Cancer Awareness Session By Shaukat Khanum Memorial Trust	29 th October 2015	Video Conference Hall of Civil Engineering Department	Girls Affairs Society in collaboration with Students' Affairs Department
Collection Of Funds For Earthquake Effectees 2015	13 th to 18 th November 2015	NED Premises	Students' Affairs Department in collaboration with Various Students Bodies
World Toilet Day 2015 "Better Sanitation For Better Nutrition"	19 th November 2015	NED Premises	Department of Students' Affairs in collaboration with Un-Habitat Pakistan
Orientation Programme 2015-16	28 th Dec. 2015	NED Auditorium	Deptt. of Students' Affairs in collaboration with Chairman Admission Committee







Chapter – 12



FINANCES

Finances

1. Accounts

1.1 The Directorate has almost been computerised. Especially Accounts Section wherein Payroll and other heads of accounts are prepared and maintained on modified software all based on Double Entry Accounting System. Accounts Section is maintaining Pay & Allowances and other financial transactions records of all University employees. In addition to Recurring Account, this Section prepares & maintains following accounts that were considered by the FPC and recommended by the Syndicate:

- Admission of Self Finance Basis
- University Development Working Party
- Research Fund Account
- Staff Welfare Fund Account
- Revolving Fund for Purchase / Construction /Repair of House Account
- Revolving Fund for Purchase of Vehicles Account
- Revolving Fund for Purchase of Computer
- Group Insurance Account
- Caution Money Deposit Account
- Restoration of City Campus
- Foreign Faculty Hiring Program
- Petroleum Engg. Department SSI Donation Account
- Petroleum Engg. Department Donation Account
- Students Scholarship Account.
- Capacity Building in Pakistan for Fire Risk Management
- Development of Fragility Curves of Karachi. Bridges
- Staff Pension Fund Account
- Staff Provident Fund Account
- Staff Benevolent Fund Account
- Endowment for Higher Education and R&D in IT & TS
- Sultan Qaboos IT Chair
- Rafeeqi Endowment Fund
- NED University Endowment Fund

1.2 Annual Statements of above mentioned accounts & funds were prepared upto the end of financial year 2014-2015 along-with necessary bank reconciliation statements. Cash Flow (Receipts/Payments) has been reviewed on daily basis & submitted through online system to Competent Authority.

1.3 The comparative fiscal financial ratios eloquently depicts that claim as under:-

Ratios and Indicators	Last FY 14-15	Status for CFY 2015-16	Projected in FY 2016-17
Total Number of Academic Programms	74	74	75
Key Ratios:			
a. Faculty : Staff Ratio	1 : 4.3	1 : 4.3	1 : 3.4
b. Faculty : Student Ratio	1 : 24.5	1 : 27.7	1 : 22.9
c. Self Generated Income as % of total Resources	38%	40%	40%
d. Self Generated Income as % of total Expenditures	38%	39%	37%
e. Recurring Grant as % of total Expenditures	51%	54%	55%
f. Students Fees as % of Cost per student	28%	34%	33%
g. Salary as % of Total Expenditure	58%	63%	66%
h. Non-Salary as % of Total Expenditure	42%	37%	34%
Potential Risk - Cost of Retirement Benefits:			
a. Annual Pensions Payment (Millions Rs.)	107.554	127.269	139.996
b. Actual Valuation of Pensions Liability (Millions Rs.)	N/A	N/A	N/A
c. Amount Available in Pension Fund (Millions Rs.)	378.599	460.664	650.000
d. Asset / Funding Gap [11(b) - 11(c)] (Millions Rs.)	N/A	N/A	N/A
e. Annual Contribution to Pension Fund (Millions Rs.)	107.554	127.269	139.996

2. Audit Reports

2.1 Introduction

Structure of an Audit Department may vary greatly from one organization to another, depending on the size and nature of the business but the role that Audit Department plays in an organization remains vital, NED University of Engineering & Technology being the educational organization the role that Audit Department plays remains the same. In this respect Audit Department conducts Internal Audit, Audit of various nature of vouchers (arising not only from the Recurring account of the University but also from Research UDWP, Self Finance, MoST Endowment Funds, number of development projects etc.), Interpret Rules & Regulations and number of other functions according to requirements and benefit for this University. The yearly performance of this department is given below:

2.2 Internal Audit

Internal Audit of various departments of this University was conducted during 2015-16 for the Financial Year 2014-15. In this connection department wise schedule is prepared, after completion of each departmental audit, an audit report is sent to respective department. During the Audit of Financial Year 2014-2015 no major loss of property or defalcation came into the notice of Audit Department, however procedural mistakes and defects were found which were rectified accordingly. Performance of Internal Audit can be analyzed from the following table:-

Audit Period	Total Departments	Departments Audited	Audit Reports Issued
2014-15	45	45	45

2.3 Pre Audit

Attention and observation is the major role of Audit Department, all audit procedures are carefully monitored in every case and efforts are made to ensure proper evidences as a matter

of cross checking. A comprehensive monthly record is being maintained in the department for the observations raised during routine audit of bills, and at the same time bills with improper evidences are recorded and returned to the concerned departments for rectification. In addition to the above, record of randomly selected vouchers / files is also maintained on monthly basis, in order to determine the average audit cycle time, detail of the same for the Financial Year 2015-2016 is as under: -

S.No.	Period	Average Audit Cycle Time
1	July 2015	2.66
2	August 2015	1.85
3	September 2015	2.12
4	October 2015	1.60
5	November 2015	1.30
6	December 2015	2.20
7	January 2016	1.80
8	February 2016	1.50
9	March 2016	1.60
10	April 2016	1.84
11	May 2016	1.84
12	June 2016	1.84
Total		22.15

The average audit cycle time of Audit department is 1.84 (22.15/12) per voucher / file (based on last 12 months average audit cycle time).

2.4 External Audit

External Audit for the Financial Year 2014-2015 was conducted by the D.G. Audit Sindh Karachi w.e.f. 16-11-2015 to 25-01-2016. The Audit Report for the Financial Year 2014-2015 has been received.

2.5 Quality Management System

For smooth functioning of the Quality Management System, the Audit Department has conducted the meetings of Board of Review (BOR) at departmental level (according to procedural requirement) under which normal business and performance of Audit was discussed and analyzed, details are as under:-

S#	BOR Meetings	Held on	Minutes issued
1.	49th Meeting	15-06-2015	17-06-2015
2.	50th Meeting	29-09-2015	05-10-2015
3.	51st Meeting	30-12-2015	01-01-2016
4.	52nd Meeting	30-03-2015	31-03-2016

The Annual customer Feedback Survey of the Audit Department was conducted during the month of October 2015. The survey forms duly filled by the Customers were sent to Quality Management Cell (QMC) for Statistical Analysis, the average rating achieved during the year 2015 was 7.782.

The Objective 2k15 of Audit Department i.e "Development of Audit Procedures & Checklist of Various Head of Accounts along with Implementation" has been successfully completed.

3. Development Budget

3.1 Cash Plan / Development Budget for on-going project entitled Strengthening of NED University of Engineering & Technology

PSDP 2015-16
A. APPROVED CASH FLOW SUMMARY

(Rs. in million)

S#	Name Of Project	PC-1 Cost	Accumulative Releases 30-06-15	Quarterly Financial Requirements 2015-16				
				I	II	III	IV	PSDP 2015 -16 Total Amount
1	Strengthening of NED University of Engineering & Technology (M-III)	2,193	2056.038	0	0	60.000	76.962	136.962
2	Commencement of New Engineering Programs and Infrastructure Development	400	----	90.354	71.479	90.034	148.133	400.000
Total				90.354	71.479	150.034	225.095	536.962

B. QUARTERLY RELEASES

The quarterly grants have been received according to following details: (Rs. in million)

S. No	Name of Project	PC-1 cost	Releases Upto 30-06-15	Quarterly Releases 2015-16				Releases 2015-16 Total Amount	Releases Upto 31.03.2016
				I	II	III	IV		
1	Strengthening of NED University of Engineering & Technology (M-III)	2,193.0	2056.038	87.586	--	--	--	87.586	2143.624
2.	Commencement of New Engineering Programs and Infrastructure Development (M-IV)	750.697	--	--	--	250.000	--	250.000	250.000

3.2 Cash Plan/ Development Budget for New Development Scheme

(Rs. in millions)

S#	Name of Projects	Estimated Cost	PSDP/ ADP 2015-16 Allocation	Releases
1	Commencement of New Engineering Programs and Infrastructure Development	750.697	PSDP 400.000	250.000
2	Development of Department of Food Engineering	360.000	ADP ---	--
3	Dr. Ishrat ul Ebad's Green Campus Initiative	200.000	ADP --	--
4	Strengthening & Upgradation of Undergraduate Laboratories of NED University (under preparation)	350.000	ADP --	--

4. Recurring Budget

S#	Head of Accounts		Budget Estimates 2015-2016
A	RECEIPTS		
1	OPENING BALANCE		1.671
2	GRANT IN AID		
	2.1	Annual Grant from HEC	1003.578
	2.2	Supplementary Grant from HEC	39.936
	2.3	Sindh Govt. Grant	100.000
3	INTERNAL SOURCES		
	3.1	Fees & Other Sources	785.798
		Total Receipts (A)	1930.983
B	PAYMENTS		
4	RECURRING ITEMS		
	4.1	Pay & Allowances	1189.041
	4.2	Pension Contribution	210.945
	4.3	Other Charges	340.006
	4.4	Previous Year Liabilities & Leave Encashment for the employees	189.754
		Total Payments (B)	1929.746
5	NET CLOSING BALANCE		1.237

5. Self-generated Income

- 5.1 The Department of Humanities generated income through conducting Short Courses Programme in Summer, Spring & Fall Semesters during 2015-16. The details of the courses along with registrations and "Income Generated" and other financial figures are given below:

Courses – Summer-2015				
Course Title	Course Duration	Tuition Fee	No. of Participants	Income generated
German-II	40 Hours	Rs. 8,500/-	13	Rs. 17,450/-
Courses - Fall-2015				
Course Title	Course Duration	Tuition Fee	No. of Participants	Income generated
GRE Preparatory	50 Hours	Rs. 12,500/-	07	Rs. 25,200/-
Courses – Spring 2016				
Course Title	Course Duration	Tuition Fee	No. of Participants	Income generated
Arabic	50 Hours	Rs. 4,800/-	11	Rs. 2,520/-
German (Module-A)	50 Hours	Rs. 8,500/-	22	Rs. 68,300/-
GRE Preparatory	50 Hours	Rs. 12,500/-	10	Rs. 55,000/-
Total Income 2015-16				Rs. 168,470/-

Self generated income of Department of Humanities, Rs. 0.16847 Million

- 5.2 The Department of Petroleum Engineering, NEDUET has generated the income in the various projects. Details are as under:

Project Title	Amount in PKR
Extended Internship Programme	4.0 million
Refresher Course for Iraqi Nationals of Mid Land Oil Company funded by PPL Asia E & P B.V. Iraq branch	2.million
British Council Researcher link Programme on Shale Gas	0.30 million

Self generated income of Department of Petroleum Engineering, Rs. 6.3 Million

- 5.3 Centre for Continuing Engineering Education (CCEE) has generated the income in the various Short Courses, B-Tech, PGCC and In-house Trainings. Details are as under:

Period	Income	Expenditure	Net Income
1 st July, 2015 to 15 th April, 2016	14,717,429	4,260,287	10,457,142
Extrapolated up to 30 th June 2016	1,200,000	800,000	400,000

Self generated income of Centre for Continuing Engineering Education (CCEE), Rs. 10.8571 Million

Chapter – 13



UNIVERSITY GOVERNANCE

1. Overview of University Governance System

In accordance with the provisions of the Act, NED University of Engineering & Technology, Karachi is a corporate body having perpetual succession and a common seal. The University consists of the Chancellor, the Pro-Chancellor, the Vice-Chancellor and all others officers, all University teachers and other members of the Authorities. It has jurisdiction within the limits of campus and in respect of all colleges within the administrative division of Karachi. The University is open to all persons irrespective of sex, religion, race, creed, class or colour. The University governance system runs as under:

1. The University is headed by the Vice-Chancellor who is the principal executive and academic officer. Administratively, the University is divided into the faculties, teaching departments/ institutes and non-teaching departments which are headed by the Deans, the Chairpersons/ Directors and the Heads respectively. The major and policy decisions of the University are however taken by its authorities or statutory bodies details of which are given in the next section.
2. The Governor of Sindh is the Chancellor of the University and the Chairman of the Senate. When present, the Chancellor presides at the University Convocation and meeting of the Senate. The Chancellor appoints (a) the Vice-Chancellor on the advice of the Chief Minister Sindh, (b) the Pro Vice-Chancellor in consultation with the Vice-Chancellor and (c) the members of the statutory bodies in accordance with provisions of the Act.
3. The Minister for Education, Sindh, or, if there are more than one Minister for Education in the Province, the Minister for Higher Education, Sindh, is the Pro-Chancellor of the University. When the Chancellor is absent or is otherwise unable to act as such, the Pro-Chancellor exercises the powers and perform the functions of the Chancellor.
4. The Vice-Chancellor (VC) is principal executive and academic officer of the University. He/ she is appointed by the Chancellor for a period of four years on such terms and conditions as the Chancellor may determine and holds office during the pleasure of the Chancellor. He/ she is responsible to ensure the due observance of the provisions of the University Act, the Statutes, the Regulations and the Rules. In the absence of both the Chancellor and Pro Chancellor, he/she presides at the University Convocation and the Senate meetings of the Senate. The VC is competent to take such action, in an emergency, which he considers necessary and report, as soon thereafter as possible, the action so taken to the Officer, Authority, Statutory Body or other body which in the ordinary course, would have taken that action.
5. The Pro Vice-Chancellor (PVC) is appointed by the Chancellor may in consultation with the Vice-Chancellor on such terms and conditions and for such period not exceeding four years at a time as the Chancellor may determine. The PVC may be appointed for the main campus or for additional campus, if any, or for both the campuses jointly or separately. The PVC exercises such powers and performs such functions as the Chancellor may delegate to him.
6. A Faculty consists of as many Teaching Departments as may be determined in accordance with the Regulations. The Dean is the head of faculty and is appointed by the Chancellor on the recommendation of the Vice-Chancellor from amongst the three most senior Professors in the Faculty for a period of three years. He/ she is the Chairperson and Convener of the Board of the Faculty concerned. The Dean also presents candidates for admission to degree other than an honorary degree in the courses falling within the purview of the Faculty and exercises such other powers and performs such other duties as may be prescribed. Presently, the University has six faculties.

7. A Teaching Department offers or assists in offering academic degree programme(s) and consists of such teachers and other employees as may be determined in accordance with the Regulations. The Chairperson of a Teaching Department or the Director of an Institute shall be appointed by the Syndicate on the recommendations of the Vice-Chancellor from amongst three most senior Professors and Associate Professors of the Department for a period of three years. The Chairperson plans, organizes and supervises the work of the Department and is responsible to the Dean for the work of his/ her Department. Presently, the University has 24 teaching departments.
8. A Non-teaching Department does not offer any academic degree programme, but performs a support function in the University. Their Heads are appointed by the Syndicate or the Vice-Chancellor in accordance with the provisions of the Act, the Statutes and the Regulations.

2. University's Authorities or Statutory Bodies

The major and policy decisions of the University affairs are made the Authorities or Statutory Bodies of the University prescribed by the Act and the First Statutes. The details about the constitution, powers and functions of the statutory bodies are given as follows.

2.1 Senate

The Senate is the highest legislative body of the University. The major functions are to consider and pass the University Statutes; to approve the annual report, the annual statement of accounts and the annual and revised budget estimates; and to appoint members to the Authorities in accordance with the provisions of the University Act.

The Senate meets at least once every year under the chairmanship of the Chancellor; Registrar acting as Secretary. All University Professors, all Chairpersons of Teaching Departments, Heads of Non-Teaching Departments (declared as Officers of the University), all members of Syndicate, four University teachers other than Professors (to be elected by all University teachers), Principals of affiliated colleges, Chairmen of Boards of Intermediate and Secondary Education, one elected Registered Graduate, two eminent engineers nominated by the Chancellor are Members of this body. The Senate is also the only Statutory Body whose meetings are open to the press and media.

23 rd Meeting	Scheduled for 4 th Week of June, 2015
24 th Meeting	Will be held after Eid

2.2 Syndicate

The Syndicate is the highest executive body of the University. The major functions are to deal with matters of movable and immovable properties, control of funds and signing of contracts; to affiliate and disaffiliate colleges; to create all the posts and make appointment to all the posts of BPS-17 and above and to confer honorary degrees, All University Regulations are approved by the Syndicate after considering recommendations as well as executive proposals. The Syndicate also recommends the proposals of the Statutes, Budgets and the Annual Reports to the Senate for its approval.

The Vice-Chancellor chairs meetings of the Syndicate and Registrar acts as Secretary. Pro Vice-Chancellor, One MPA, one High Court Judge, two members of Senate, Education Secretary or his Additional Secretary, Nominee of HEC, One Dean (to be nominated by Chancellor), elected representatives of Professors / Associate Professors / Assistant Professors / Lecturers, three eminent persons nominated by Chancellor, One Principal of an affiliated college, one Alim, and one lady nominated by the Chancellor are members of this body.

177 th Meeting	25 th April 2016
178 th Meeting	Scheduled for 3 rd June 2016

2.3 Academic Council

The Academic council is the highest academic body of the University. The major functions are to lay down proper standards of the instructions, research and examinations; to regulate students' admissions and discipline; and to regulate and promote the academic life of the University and the colleges. It reviews all academic matters recommended by the Boards of Faculties (BOFs) and make recommendations to the Syndicate for approval.

The Vice-Chancellor (Chairman), Pro Vice-Chancellor, the Deans, all Professors, all Chairpersons, Principals of affiliated colleges, two eminent engineers nominated by Chancellor, Provincial Education Secretary or his Additional Secretary, Chief Librarian and Controller of Examinations are also members of this body. Registrar acts the Member/Secretary of the Academic Council.

129 th Meeting	01 st June, 2015
130 th Meeting	08 th December, 2015
131 st Meeting	13 th May, 2016

2.4 Advanced Studies and Research Board (ASRB)

The ASRB deliberates and advises the Authorities on all matters connected with the promotion of advanced studies and research in the University. The Vice Chancellor (Chairman), Pro Vice-Chancellor, all Deans, three nominees of each Syndicate and Academic Council are the members of this board. One senior faculty member holding PhD degree is assigned as Secretary ASRB.

88th Meeting	25th August 2015
89th Meeting	31st December 2015
90th Meeting	13th April 2016

2.5 Affiliation Committee

The Affiliation Committee deals with all the matters related to the affiliation, dis-affiliation and inspection of the educational institutions either affiliated or seeking affiliation and advise the Academic Council thereon. The Vice Chancellor (Chairman), Pro Vice-Chancellor, all Deans, two Professors nominated by the Academic Council and Director Technical Education, Sindh are members of this Committee.

2.6 Board of Faculty (BoF)

All Professors and Chairmen of departments in each Faculty are members of this body. The Dean presides over meetings of BOF, while Deputy Registrar (Academic) acts as the Secretary in all Faculties. Two Associate/Assistant Professors from each department are also nominated by each departmental BOS for three years at one time. Three teachers are also nominated by the Academic Council as members of each BOF for three years at any time. All academic related issues recommended by Boards of Studies in that Faculty are discussed and recommendations submitted in Academic Council.

2.7 Board of Studies (BoS)

The BOS of each department comprises all Professors, all Associate Professors, One expert (appointed by the Vice Chancellor) and such Assistant Professors and Lecturers as may be appointed by the Academic Council. The Chairperson of the Teaching Department presides over the meetings; the Area Coordinator is its Secretary. All academic matters – including research proposals, any changes in courses, regularity of classes / practical, customer

feedbacks, improvements in workbooks, designing new courses or programmes etc. – are discussed in the BOS and recommendations are made to the BOF.

2.8 Selection Board

The Selection Board consists of Vice Chancellor (Chairman), Pro Vice- Chancellor, Chairman or member of Sindh Public Service Commission, Dean and Chairperson concerned, One member of the Syndicate and two other persons of eminence to be appointed by Syndicate. The Selection Board meets whenever required to select / recommend candidates for appointment as teachers or officers of the University in BPS-17 and above.

120 th Meeting	17 th , 18 th , 21, 29, & 30 th December, 2015
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2.9 Finance and Planning Committee (FPC)

All University matters related to the financial planning, budgets estimates, creation of new posts, etc. are discussed in this Committee and recommendations are made to the Syndicate. The Vice Chancellor (Chairman), Pro Vice-Chancellor, all Deans, Registrar, One nominee each from the Chancellor, the Senate and the Syndicate are members. The Director Finance is the Member / Secretary of the FPC.

136 th Meeting	14 th July 2015
137 th Meeting	17 th November 2015
138 th Meeting	19 th May 2016
139 th Meeting	29 th June 2016

2.10 University Development Working Party (UDWP)

All the University projects worth more than rupees two millions are discussed by this body and recommendations are made to Syndicate for approval. The Vice Chancellor (Chairman), Pro Vice-Chancellor, all Deans, Registrar, one nominee each from the Chancellor, the Senate and the Syndicate and Director Finance are the members. The Director (Planning and Projects) is the Secretary of the UDWP.

Chapter – 14



HEALTH CENTRE AND MEDICAL FACILITIES

Health Centre and Medical Facilities

1. Medical Facilities Available

Medical Department offers Emergency Treatment, OPD, Medical Examination, I/V Infusion Facility, Oxygen, Minor Surgical procedures, twenty two in-house pathological laboratory investigation/tests, X-Ray, Treatment Nebulization, 24 hours Ambulance and referrals to students, employees and their dependents. The University also has peripheral Medical Sub Centre at LEJ and City Campus each providing medical cover at their respective campuses. Additionally, University also coordinates for Vaccines administrating facility under EPI Immunisation Programme for children under five years run by Town Health Office City District Govt. Karachi.

Statistics pertaining to the facilities provided are provided in the table below: -

Descriptions	Employees/ Dependents	Students
Medical Examination	43	2742
In house Pathological Laboratory Investigation / Tests	997	
X-Ray	105	49
Treatment	3783	2466
Nebulization	160	
Referrals	173	93

Abbreviations

ACI	American Concrete Institute
ASHRAE	American Society of Heating Refrigeration and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
BME	Bio-Medical Engineering
BOF	Board of Faculty
BOS	Board of Studies
CEA	Civil Engineering & Architecture
CPE	Chemical and Process Engineering
CSIT	Computer Science and Information Technology
DIT	Director or Directorate of Information Technology
DMR	Deputy Management Representative
ECE	Electrical and Computer Engineering
FPC	Finance and Planning Committee
HEC	Higher Education Commission
ISH	Information Sciences and Humanities
MES	Metallurgical Engineering Society
MME	Mechanical and Manufacturing Engineering
MPA	Member Provincial Assembly
MR	Management Representative
NED	Nadirshaw Edulji Dinshaw
NEDAN	NED University Alumni Network
NMS	NED Materials Society
ORIC	Office of Research, Innovation and Commercialization
PERN	Pakistan Education & Research Network
PVC	Pro Vice-Chancellor
QEC	Quality Enhancement Cell
QMC	Quality Management Cell
SCHEME	Society of Chemical Engineers
SME	Society of Manufacturing Engineers
SPE	Society of Petroleum Engineers
SPPE	Society of Polymer and Petrochemical Engineers
UDWP	University Development Working Party
VC	Vice-Chancellor