Chapter 7 Strengthening Physical Infrastructure

FACULTY OF ARTS & HUMANITIES

DEPARTMENT OF ARCHAEOLOGY

- Development Projects (Laboratories, Libraries, etc.)
 - Establishment of New Museum
 - Establishment of New Computer Lab (in progress)

DEPARTMENT OF PHILOSOPHY

- Development Projects (Laboratories, Libraries, etc.)
 - o The classrooms are equipped with audio visual and projector facilities.
 - The Library of the Department was computerized and computer facilities are also available in the Library.
 - A separate computer lab for the research scholars is also under construction established in the Department.

PAKISTAN STUDY CENTRE

- Development Projects (Laboratories, Libraries, etc.)
 - The Centre's Library contains a good collection of books, journals, reports, newspapers covering a wide-range of themes related to history, politics, economy, geography, languages, culture and literature of Pakistan. There is also a sufficient collection on the South Asia, Central Asia and the Middle East. New books are being added on regular basis. The library receives more than 20 research journals covering a vast field of subjects particularly Social Sciences. The Library is also acquiring English and Urdu local newspapers.

COLLEGE OF ART & DESIGN

- Development Projects (Laboratories, Libraries, etc.)
 - Computer Lab for Graphic Design Students.
 - Furnished the Library environment according to the desired standards.
 - Automation of Library catalogue
 - Established Online Public Access Catalogue (OPAC)
 - College Digital Library (in progress)
 - Established College Digital Archive (in progress)
 - Established WiFi facility in Library
 - Established Separate Reference Section
 - 4 computers for HEC databases

• Construction Projects

- Keeping in mind the character of the old building of the Allama Iqbal Campus.
 - The College constructed the new Graphic design & Architecture studios.
 - Garden developed in front of Mosque.

FACULTY OF BEHAVIORAL & SOCIAL SCIENCES

DEPARTMENT OF SOCIAL WORK

- Development Projects (Laboratories, Libraries, etc.)
 - o Library of the Department added fifty two new books on different subjects in this year.

INSTITUTE OF SOCIAL & CULTURAL STUDIES

• Development Projects (Laboratories, Libraries, etc.)

In order to upgrade the library facilities 268 number of latest books have been added in the Institutes library. The detailed status of institute's library is as follows:

Category	No.
Total No. of General Books	15182
Total No. of Reference Books	287
Total No. of Journals Subscribed (Local)	82
Total No. of Journals Subscribed (Foreign)	95
Total No. Thesis	323
Total No. of Reports	292
Budget provision for Book	250,000

Construction Projects

o Construction of the first floor of the ISCS is under progress.

FACULTY OF COMMERCE

HAILEY COLLEGE OF BANKING & FINANCE

- Development Projects (Laboratories, Libraries, etc.)
 - Newly renovated computer lab has been equipped with 100 Desktop Computers purchased from M/s Micro Innovations & Technologies Pvt. Ltd.
- Research Equipment
 - College library is equipped with research journals.
- Construction Projects
 - Due to the construction of MBS flyover bridge college boundary wall and ground is under construction.

HAILEY COLLEGE OF COMMERCE

- Development Projects (Laboratories, Libraries, etc.)
 - Computer Labs. 03 Computer Labs
 - Extension of computer lab completed
 - Library 01 Open Shelf Library
 - Extension of library completed

• Construction Projects

• Plan to construct multipurpose hall

FACULTY OF ECONOMICS & MANAGEMENT SCIENCES

DEPARTMENT OF ECONOMICS

- Development Projects (Laboratories, Libraries, etc.)
 - Enhancement of the existing library by the inductions of new books and a new section. The department of economics has bought over hundred books in last year according to the need of the students.
- Research Equipment
 - The department has two computer labs according to the need of modern researches.
- Construction Projects
 - Extension of departmental building

DEPARTMENT OF LIBRARY & INFORMATION SCIENCE

- Development Projects (Laboratories, Libraries, etc.)
 - o DLIS has extended its computer lab for students and eight new work stations were added.

INSTITUTE OF ADMINISTRATIVE SCIENCES

• With the objective of making students well versed in usage of information technology and to enhance their computer literacy skills, IAS has well equipped computer laboratories which cover an area of 4800 square feet. IAS has two well equipped computer laboratories, as we belong to the management sciences so we do not have any scientific laboratories. There are two separate computer laboratories on the upper story of the newly constructed IAS building, one for graduate programs (LAB Gr.) and the other for undergraduate programs (LAB U.Gr.). Both these labs are equipped with 250 computers with contemporary softwares like MS Office, SPSS, Corel Draw, Adobe etc. A strong anti virus software named NOD 32 is installed to prevent viruses from attacking the systems. Instructions/guidelines for the users regarding safety regulations or alike have been displayed on the lab notice boards. In addition, we equip our students with the usage of IT by offering multiple courses throughout their stay at IAS. In addition, we have developed

software for online evaluation of teachers through students and installed CMS for annual academic activities and our web portal is in the final stage of making.

INSTITUTE OF BUSINESS ADMINISTRATION

- Development Projects (Laboratories, Libraries, etc.)
 - Computer Labs

There are two fully equipped and modern computer labs for the students at IBA, having 170 stateof-the-art computers. These labs are equipped with multimedia projectors and sound systems.

o IBA Library

Sr. No.	Description	
1	Total books available as on 30-09-2011	19,600
2	New books added during the reporting period	100
3	3 Total book as on September 30, 2012	

 In addition to above books, IBA library is also regularly subscribing for 3 foreign and 8 local famous journals.

FACULTY OF EDUCATION

DEPARTMENT OF SPECIAL EDUCATION

- Development Projects (Laboratories, Libraries, etc.)
 - Department established one computer lab and one Audiology Lab with latest technology used for hearing assessment.
 - o Department extend its computer lab with work stations.
 - Established Audiology lab with latest equipment used to diagnose hearing level.

FACULTY OF ENGINEERING & TECHNOLOGY

CENTRE FOR COAL TECHNOLOGY

- Development Projects (Laboratories, Libraries, etc.)
 - Sent proposals to HEC for providing funds for construction of phase-II of the building and purchase of Research Equipment.
- Research Equipment
 - Tube Furnaces (5)
 - Digital Heavy Duty Hot Plate (2)
 - Over Head Stirrer (3)
 - Drying Oven (1)
 - Muffle Furnace (1)

- Thermostatic Dry Bath (2)
- Intelligent PH Meter (2)
- Soft key for Automatic Bomb Calorimeter

DEPARTMENT OF TEXTILE ENGINEERING & TECHNOLOGY

• Development Projects (Laboratories, Libraries, etc.)

Libraries:

• Additional books have been added in the library and the total books are now (309).

INSTITUTE OF CHEMICAL ENGINEERING & TECHNOLOGY

- Development Projects (Laboratories, Libraries, etc.)
 - The institute receives budget for its development projects from University of the Punjab and HEC.

• Research Equipment

- The institute has state of the art research labs. Upgradation of these labs is a continuous process. Postgraduate labs are adorned with state of the art Analytical and Experimental facilities:
 - Automatic Density Meter
 Refrectrometer
 - Karl fisher Titration Apparatus Gas Chromatograph
 - Particle Size Analyzer

CFBC Feeder

- Atomic Absorption Spectrometer
- Micrometrics Chemisorb

o DSC

- Flame Photometer Rheometer
- Analytical Balance
 FT-IR
- o pH meter
- Conductivity Meter
 TGA
- Construction Projects

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• The faculty offices are being upgraded.

INSTITUTE OF QUALITY & TECHNOLOGY MANAGEMENT

- Development Projects (Laboratories, Libraries, etc.)
 - Projects are in process to equip Laboratories as per requirements of Pakistan Engineering Council.
 - Recent Vice Chancellor of Punjab University has allocated Rs. 6 million to update Industrial Engineering laboratories from his special education funds.
 - Pakistan Engineering Council has allocated Rs. 0.3 million to update department library for engineering sections books.
 - University of the Punjab has allocated Rs. 0.3 million to update the department library.

FACULTY OF ISLAMIC STUDIES

SHEIKH ZAYED ISLAMIC CENTRE

- Development Projects (Laboratories, Libraries, etc.)
 - The Computer Lab. of the Centre has equipped with 25 computers for the students of the Centre.
 - 13207 books were available in the library but during the course of time 334 books were purchased. Now the total numbers of books in the library are 13541.

FACULTY OF LAW

UNIVERSITY LAW COLLEGE

- Research Equipment
 - Establishment of Internet Lab
- Construction Projects
 - o Internet Lab, LL.M. Class Room, Canteen, Photo copy shop and addition of new Car Parking.

FACULTY OF LIFE SCIENCES

CENTRE FOR CLINICAL PSYCHOLOGY

- Development Projects (Laboratories, Libraries, etc.)
 - Strengthening of Academic Research and Clinical Services at Centre for Clinical Psychology, University of the Punjab, Lahore.

• Construction Projects

The Project was approved by the DDWP of Higher Education Commission in its meeting held on 18th May, 2006. The ground breaking ceremony took place on 6thJune, 2007 by the Vice-Chancellor, Punjab University, Lahore. The civil work for "Strengthening of Academic Research and Clinical Services" at Centre for Clinical Psychology, University of the Punjab, Lahore was completed and finishing work is in process. The project will be completed in near future.

CENTRE OF EXCELLENCE IN MOLECULAR BIOLOGY

- Development Projects (Laboratories, Libraries, etc.)
 - Strengthening of CEMB
 - o Establishment of National Centre for Stem Cell Research and Regenerative Medicine
- Research Equipment
 - Temperature Control Units
 - Refrigerators
 - Air-Handling Unit
 - Cooling Tower

- o UPS
- o Temperature Control Units
- Microscopes
- Construction Projects
 - Car Parking
 - External Electrification
 - Animal House

DEPARTMENT OF APPLIED PSYCHOLOGY

- Development Projects (Laboratories, Libraries, etc.)
 - Department has renovated animal laboratory recently in which different experiments are performed on animal behavior such as conditioning and biological basis of behavior. Each year new psychological tests and scales are purchased and added to the testing lab.

• Research Equipment

- Computers were added to MPhil and PhD labs, and also data analysis software's were installed in computers for research purposes.
- Construction Projects
 - Computer Lab has been constructed which will host about 80 computers and will cater the needs of PhD, MPhil, MSc and BS students.

DEPARTMENT OF BOTANY

- Development Projects (Laboratories, Libraries, etc.)
 - One hundred sixteen new books added in the Library, Department of Botany, University of the Punjab, Lahore this year.
- Research Equipment
 - Digital Electric Balance (Schima DZu) Model No. TX 3232 (Molecular Genetics Lab)
 - PCR Machine (Molecular Genetics Lab)

DEPARTMENT OF MICROBIOLOGY & MOLECULAR GENETICS

- Development Projects (Laboratories, Libraries, etc.)
 - Established pilot scale animal house (animal sheds and cages)
 - Established plant and soil analysis room.
 - Established experimental station (Plant growth tunnels and related plant growth facility etc).
- Research Equipment
 - Fermenter
 - Rotary Evaporator
 - Atomic absorption

- o Spectrometer
- Refrigerator
- WiFi for research students
- o Gel apparatus
- o Eukaryotic Cell Culture Incubator
- Eukaryotic Cell Culture Hood
- o Centrifuge
- o Microfuge
- Basic equipment Eukaryotic Cell Culture lab (Water bath, Autoclave etc)
- Construction Projects
 - Established new lawns in the department

DEPARTMENT OF SPORTS SCIENCES & PHYSICAL EDUCATION

- Construction Projects
 - One block of Department of Sports Sciences & Physical Education Building at new campus has been completed and department shifted at New Campus. Other construction work under process.

DEPARTMENT OF ZOOLOGY

• Development Projects (Laboratories, Libraries, etc.)

At present the Department of Zoology has a clear vision to extend its existing research facilities. These are following main components in this respect which are given as under:

• Strengthening and up-gradation of existing facilities in Zoology Department.

- Over all improvement and renovation of the department.
- To establish field research laboratory at Fish Research Farm University of the Punjab for research students of the department.
- Establishment of Entomology laboratory for studying Biodiversity and Ecology of insects and spiders.
- To establish Animal house facilities in the Department of Zoology for rearing of experimental animals.
- Extension of departmental library to accommodate increasing number of students in the department.
- Establishment of Wildlife record Library to study the Biodiversity and Ecology of birds and animals.

Research Equipment

	Description of equipment		
0	All glass water distillation apparatus	1	
0	Aspirator USA 1412 Model	1	

0	Freezer (Vertical) Dawlance	1
0	Refrigerator PEL	1
0	High Performance Centrifuge Korea	1
0	Real time PCR System Model 7300	1
0	Centrifuge Machine China	1
0	Ice making machine singer	1
0	Air-conditioner L.G. 1. 1/2 tn	1
0	Multi Media Projector	2
0	Overhead Projector	2
0	Inverted Microscope Model TC-5200 Meiji Japan	1
0	Electric Microscopes Binocular type (XSZ-107-BN)	5
0	Spectrophotometer	
0	HPLC Model S-2100 Germany	1 Set
0	Incubator Memmert 1NB-200 Germany	1
0	Atomic Absorption Spectrophotometer	1
0	Auto clave streel	1
0	Milli Dionized Purifications system	1
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Construction Projects

Future Plans:

- For Animal House, Computer Lab and Departmental Museum, PC-I has been submitted to the University for funding.
- Computer Lab Strengthening, Animal House Establishment, Natural History Museum Development.

INSTITUTE OF BIOCHEMISTRY & BIOTECHNOLOGY

- Research Equipment
 - Shaking Water Bath
 - o UV/Vis Spectrophotometer
 - o Laboratory Refrigerator Digital
 - o Ice Making Machine

SCHOOL OF BIOLOGICAL SCIENCES

- Development Projects (Laboratories, Libraries, etc.)
 - The infrastructure of School is distributed in two double storied buildings, adjacent to each other, which are provided with all fixtures and facilities of any modern Molecular Biology and Analytical Chemistry labs. Presently there are 14 functional and fully furnished laboratories with the necessary equipment for research work in the first building. The second building, which is replica

14-06-11

03Nos.

of the first building, houses some specialized laboratories/facilities, for example, Animal Cell Culture, Radioactivity, Cold Room, HPLC, Proteomics, Atomic Absorption, Maldi-Tof Mass Spectrometry, Human Growth Hormone Laboratory, Forensic Diagnostic and Research Laboratory etc, besides a small Lecture Hall. Another small building just behind the new block houses a Small Animal House, an Insectary and a Green House. Another wing with 14000 sq.feet plinth area is being planned. This would enable the School to expand its existing research activities. The School had plans to embark upon an extensive formal practical training programme in Molecular Biology for researchers, faculty members and post-graduate students of this university, other universities in and outside the town in Punjab and other provinces of Pakistan, but unfortunately because of problem of transfer of funds, this programme could not be undertaken with full force and enthusiasm. School is making rapid progress and is heading towards its objectives with the concerted efforts of younger faculty members, the senior faculty members as its Directors and the able guidance of a worlds renowned Director General.

• Research Equipment

Sr. No.	Name of Equipment	Model/Make	QTY	Date of Purchase
01.	Vacuum Jug	Japan	01No.	18-04-11
02.	Horizontal Gel Electrophoresis	Cleaver Scientific UK	04Nos.	13-05-11
03	Power Supply	DYY-6C China	01No.	14-06-11

List of Equipment's Purchased – 2011-12

Construction Projects

04.

• The construction of Ph.D. boy's hostel has been completed. The girl's hostel is near completion.

DYCZ-30C China

FACULTY OF ORIENTAL LEARNING

UNIVERSITY ORIENTAL COLLEGE

Electrophoresis System

• Development Projects (Laboratories, Libraries, etc.)

- Oriental College Library is 2nd big library on language and literature of the University, comprising more than one lac collection including departmental Libraries:-
 - College Section: 44752 books
 - Arabic: 9397 books
 - Persian: 7622 books
 - Urdu: 18,368 books
 - Ref. 3063 books
 - Asiatic/Regional: 2,017 books
 - Oriental Publications: 12000 books

- Two combined Computer Labs for all the Teaching Departments and Institute of Languages of the College, comprises on 57 computers, the students, researchers and Teachers are facilitating with the Internet service.
- A combined Language Lab for all the Teaching Departments of this College, is consisting of 30 heads with the facility of Audio-visual aid equipments, computer and Inter net service.

DEPARTMENT OF PERSIAN

- Development Projects (Laboratories, Libraries, etc.)
 - Installed two Multimedia's in the Classroom.

DEPARTMENT OF KASHMIRYAT

Development Projects (Laboratories, Libraries, etc.)

Sr. No.	Particulars	Available in 2010	Addition	Total
01	Books	4829	1004	6065
02	Research Journals	200	20	220
03	Thesis (M.A)	258	15	273
04	Thesis (M.Phil)	03	Nil	03
05	Ph.D Dissertation	04	Nil	04

DEPARTMENT OF PUNJABI

• Installed one Mwultimedia in Audio Visual Cell.

DEPARTMENT OF URDU

- Development Projects (Laboratories, Libraries, etc.)
 - o Installed two Multimedia's in the Classroom.

FACULTY OF PHARMACY

UNIVERSITY COLLEGE OF PHARMACY

- Development Projects (Laboratories, Libraries, etc.)
 - Two new laboratories, Innovation drug delivery systems and Pharmaceutical Research Laboratory for Postgraduates have been established, renovation of under graduate Labs, and new Animal house have also been established.
- Research Equipment
 - o Ball mill
- Construction Projects
 - Tough tile flooring for College of Pharmacy.
 - A place for putting water filtration plant & coolers.

FACULTY OF SCIENCES

CENTRE FOR EXCELLENCE IN SOLID STATE PHYSICS

• Development Projects (Laboratories, Libraries, etc.)

Sr. No.	Duration	Sponsoring Agency	Funding
1.	4 Years	Higher Education Commission	38.533 Million
2.	6 Months	Higher Education Commission	0.500 Million
3.	6 Months	Higher Education Commission	0.500 Million

• Research Equipment

• Versastat 4-400 with Standard Accessories

CENTRE FOR INTEGRATED & MOUNTAIN RESEARCH

- Development Projects (Laboratories, Libraries, etc.)
 - CIMR was shifter from its old location near the Institute of Education and Research Building to its new location Near Institute of Space Science in its newly developed building. Phase 2 of the developmental program is under progress in which two class rooms are being constructed in the centre.

CENTRE FOR UNDERGRADUATE STUDIES

- Development Projects (Laboratories, Libraries, etc.)
 - Up gradation of Zoology Laboratory
 - Development of internal and external green belts and lawns
 - o Installation of multimedia projectors in two class rooms
- Research Equipment
 - Installation of previously purchased equipments like spectrophotometers and flame photometers in instrument laboratory

COLLEGE OF EARTH & ENVIRONMENTAL SCIENCES

• Development Projects (Laboratories, Libraries, etc.)

Laboratories:

- Some wooden infrastructure was developed in Applied Hydrology and biology laboratories from unspent HEC budget.
- Plans to construct an experiment in the college are underway.

Libraries:

- More than 200 books have been added to the library and the number has increased beyond 2500
- Research Equipment

The following Research Equipments were purchased in Projects.

- Orbital Shaker
- o Refrigerator 2
- Hot Plate 2
- o Chopper
- TDS Meters 3
- o Scanner
- Weighing Balance
- o PH Meter
- Conductivity Meter

Construction Projects

 A car parking area was constructed at the back of the building in the CEES. The college infrastructure was modified by construction of an office for Administrator and Stenographer to the Principal, installation of an intercom system with 40 lines and setting up an office for the Accountants.

COLLEGE OF STATISTICAL & ACTUARIAL SCIENCES

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- Development Projects (Laboratories, Libraries, etc.)
 - The existing Computer Lab. is significantly updated by adding new & latest computers;
 - o The classrooms are equipped with audio visual and projector facilities;
 - The Library of the College was computerized and computer facilities are also available in the Library;
 - A separate computer lab for the research scholars is also established in the College.
- Construction Projects
 - After launching of five masters level, one BS, one M.Phil and PhD programs, the existing building of College of Statistical and Actuarial Sciences, University of the Punjab, Lahore becomes insufficient. A master plan was developed and PU authorities not only sanctioned it but also provided land and finance for the construction of new purpose-built building of the College. The construction work of administration block and ground floors of five academic blocks are hopefully completed at the end of this year.
 - The plan for the construction of first floors of academic blocks is also under the consideration.

DEPARTMENT OF GEOGRAPHY

- Development Projects (Laboratories, Libraries, etc.)
 - o 5 Labs. & One Library
- Research Equipment
 - HP Proliant Server Dual Processor of amount 278000 for the Computer Lab, Sound Level Meter,
 7 Laptops and 10 Computers.

• Construction Projects

• Faculty and Students washroom construction, paint/ whitewash in the whole department

DEPARTMENT OF MATHEMATICS

- Development Projects (Laboratories, Libraries, etc.)
 - Three Computer Labs.
 - One Library
- Research Equipment
 - o 108 Computers
 - o 03 Multimedia

DEPARTMENT OF PHYSICS

- Development Projects (Laboratories, Libraries, etc.)
 - Computer assisted new experiments in the modern physics laboratories are installed.
 - The existing Computer Lab has been significantly updated by adding new & latest computers.
 - A separate computer lab for the research scholars is also established in the Department.
 - The Library of the Department has been computerized and now students can avail computer facilities in the Library.

• Research Equipment

The following research equipment/Labs are available in the Department for the M.Phil/ PhD research work.

- X-ray diffraction (XRD) laboratory.
- Fourier transform infrared spectroscopy (FTIR) laboratory.
- Under Graduate & Graduate level computer laboratories.

INSTITUTE OF CHEMISTRY

 Last year different equipments were purchased in order to meet the requirements of the state of the art laboratories. Like every year, in last year books related to literature and chemistry has been purchase. No considerable construction projects were launched in last year.

PUNJAB UNIVERSITY COLLEGE OF INFORMATION TECHNOLOGY

- Development Projects (Laboratories, Libraries, etc.)
 - Electronics Lab
 - Open Source and E-Lancing Lab (53 Computers)
 - Remote Sensing & GIS Lab (66 Computers)
 - MS-Lab Old Campus (25 Computer)
 - MS-Lab New Campus (15 Computer)

• Research Equipment

The following research equipment was purchased for the said tenure.

- o Plotter
- Apple Mac, Laptops Core i5& i7 etc
- Scanner / Electric Items
- Apple i phone / Android Tablet Phone/ Samsung Galaxy

Construction Projects

- Two Academic Blocks
 - GIS Center (New Campus) Completed
 - First floor of IT Center under construction expected to be completed by September 2013.
- HRD building in plans, expected to be completed by June 2014.
- Academic block with 12, state of the art Lecture Theater at old campus in plans
- Second floor of GIS under construction expected to be completed by September 2013.

SCHOOL OF PHYSICAL SCIENCES

• Development Projects (Laboratories, Libraries, etc.)

- Some projects are in progress to equip laboratories as per requirements by SPS.
- Advance Chemistry and Molecular Research Laboratory has developed at SPS and all equipments are now in working condition.

• Research Equipment

Following equipment was managed.

- PCR machine and UPS.
- High Speed centrifuge machine.
- Electrophoresis system for Proteins and DNA.
- Construction Projects
 - With the induction of more M.Phil and PhD students and availability of the grants, the current infrastructure will be further expanded according to requirement for Research and teaching activities necessary for the development of the School in order to cope with future challenges of Research Innovation and Development.

PUNJAB UNIVERSITY GUJRANWALA CAMPUS

• Development Projects (Laboratories, Libraries, etc.)

Laboratories:

• There are three computer laboratories equipped with multimedia projectors and 129 computers to assist the students in their research work and other general purposes.

Library:

- The PUGC library has 10,915 books and 20 magazines and journals of National and International repute. To facilitate the research activities, PUGC library has an access to the full text research journals through HEC digital library (http://www.digitallibrary.edu.pk/punjabuni.html).
- A PUGC library bulletin is also compiled on monthly basis.
- Research Equipment
 - All the classrooms, computer laboratories, library and faculty offices are equipped with computers having internet facility to promote research activities.
- Construction Projects
 - The extension building is almost ready for execution of classes here.

PUNJAB UNIVERSITY JHELUM CAMPUS

• Development Projects (Laboratories, Libraries, etc.)

- Punjab University Jhelum Campus is strengthening its Computer Lab with latest Computers equipped with variety of Software Applications and implementation of Wireless Computer Network.
- The Library of Punjab University Jhelum Campus is a digital Library and is being equipped with old and latest Text & Reference Books, Journals, Research Articles, Case Law & Internet facility.
- Research Equipment
 - 50 Computers with all accessories.
- Construction Projects
 - The Judicial Complex of Jhelum has been handed over to Punjab University, which is being converted into an Educational Institution according to the academic requirements.