

SAROSH HASHMAT LODI

Professor and Dean Civil Engineering & Architecture
NED University of Engineering and Technology, Karachi

Ph: 9926-1261-68 Ext 2205 (Off)

Mobile: 0333-214-1160

E-mail: sarosh.lodi@neduet.edu.pk, saroshlodi@yahoo.com

QUALIFICATIONS:

- | | |
|------|---|
| 2005 | National Management Course (82 nd NMC), Pakistan Administrative Staff College, Lahore. |
| 1998 | PhD, Heriot-Watt University, UK |
| 1988 | MS (Structures), Oregon State University, USA |
| 1985 | BE (Civil), NED University of Engineering and Technology, Karachi, Pakistan |

Work Experience:

- | | |
|----------------|---|
| 2010 – to-date | Dean Civil Engineering & Architecture, NED University of Engineering and Technology, Karachi. |
| 2003 – 2010 | Chairman, Department of Civil Engineering, NED University of Engineering and Technology, Karachi. |
| 2000 – to-date | Professor, Department of Civil Engineering, NED University of Engineering and Technology, Karachi. |
| 1998 – 2000 | Associate Professor, Department of Civil Engineering, NED University of Engineering and Technology, Karachi |
| 1991 – 1994 | Assistant Professor, Department of Civil Engineering, NED University of Engineering and Technology, Karachi |
| 1988 – 1991 | Lecturer, Department of Civil Engineering, NED University of Engineering and Technology, Karachi |
| 1985 – 1986 | Structural Design Engineer, Mehran Engineers and Consultants, Karachi. |

Other Experiences:

- | | |
|------------------|--|
| 2010 | Member, Task Force for Implementation of Energy Building Code of Pakistan, Pakistan Engineering Council, Islamabad |
| 2009 | UNDP Consultant on Site Selection for Evacuation Shelter for Tsunami at Markan Coast, Balochistan |
| 2009 – till date | UNDP Consultant on National Capacity Building for Disaster Risk Management |
| 2008 – till date | Expert Member on Seismic Hazard Assessment of Pakistan, UNDP – NDMA |
| 2008 – till date | Team Member, Design of Seismic Retrofit for Stone Masonry School Building at Abbottabad, CWS – P/A |
| 2009 | Represented Pakistan at 16 th Plenary Meeting of International Standardization Organization Committee TC 71 at Cairo, Egypt |
| 2009 – till date | Convenor, National Building Code – Seismic Provisions Implementation Committee, Pakistan Engineering Council, Islamabad |
| 2008 | Represented Pakistan at 14 th Plenary Meeting of International Standardization Organization Committee TC 71 at Salvador, Brazil |
| 2006 – 2009 | Member, National Highway Board, Ministry of Communication, Government of Pakistan |

2007 – 2008	Member, Pakistan Building Code – Seismic Provisions Committee, Pakistan Engineering Council, Islamabad
2005 – till date	Member, Traffic Management Board, CDGK, Karachi
2005 – 2006	Registrar, NED University of Engineering and Technology, Karachi
2001 – to-date	Resource Person, Cowsjee Earthquake Study Centre, Karachi.
1998 – 2005	Management Representative for ISO 9000, NED University for Engineering and Technology, Karachi
1998 – to-date	Member, Board of Studies, Board of Faculties, Academic Council, Syndicate and Senate, NED University of Engineering and Technology, Karachi
1998 – to-date	Local Coordinator, Ferrocement International Network (Pakistan)
1989- 1994	Local Coordinator, Ferrocement International Network (Pakistan)

RESEARCH PROJECTS

Principal Investigator, “Non-linear Analysis of Ferrocement Elements”, funded by NED University of Engineering and Technology, Karachi. Project completed in April 2002.

Principal Investigator, “Development of Earthquake Design Spectra for Southern Coastal Region of Sindh”, funded by NED University of Engineering and Technology, Karachi. Project completed in February 2006.

Co – Principal Investigator, PhD project “Static and Dynamic Stiffness of Pile Foundation”, funded by NED University of Engineering and Technology, Karachi. Currently in progress.

Principal Investigator, “Development of a Strategic Model for Improvement of Construction Project Management Education, Research, and Practice in Pakistan”. Research project funded jointly by Higher Education Commission and USAID. Research completed in December 2009.

Co – Principal Investigator, “Building Pakistan’s Capacity for Instruction, Research, and Practice in Earthquake Engineering and Seismic Retrofit”. Research project funded jointly Higher Education Commission and USAID, currently in progress.

Collaborator, "GPS Study of the Kinematics of the India-Eurasia Convergence Zone across the Pamir and Adjacent Terrain". Research project funded by the National Science Foundation, USA in collaboration with the University of Montana and University of Colorado, currently under progress.

Research and Publications:

Books Edited:

Proceedings of the First International Conference Construction in Developing Countries, “Advancing and Integrating Construction Education, Research and Practice”, ICCDIC 2008, 4 and 5 August 2008, Jointly organised by NED University of Engineering and Technology, Pakistan and Florida International University, USA.

Proceedings of the Second International Symposium on Infrastructural Engineering in Developing in Countries, IEDC 2004, 4 September 2004, NED University of Engineering and Technology.

Proceedings of the First International Symposium on Infrastructural Engineering in Developing in Countries, IEDC 2001, 22 September 2001, NED University of Engineering and Technology.

International Journal Contributions:

"Interseismic Strain Accumulation along the Western Boundary of the Indian Subcontinent", Walter Szeliga, Roger Bilham, Din Muhammad Kakar and **Sarosh Lodi**, Journal of Geophysical Research - Solid Earth, American Geophysical Union, submitted for publication September 2011.

"Preliminary Evaluation of Attenuation Characteristics of Coastal Belt of Sindh (CDS) with the Aid of Updated Attenuation Models for Eastern Northern America", Mukesh Kumar, **Sarosh H Lodi** and SFA Rafeeqi, NED University of Engineering Journal of Research, Vol. VIII, No. 1, June 2011.

"Ferrocement Constitutive Model and Experimental Validation", **SH Lodi**, SFA Rafeeqi, GA Jokhio, NED University of Engineering Journal of Research, Vol. VII, No. 2, December 2010.

"The Door-Knockers of Mansurah – Strong Shaking in a Region of Low Perceived Seismic Risk, Sindh, Pakistan", Roger Bilham and **Sarosh Lodi**, IGCP567 Geological Society of America Special Paper 471 "Ancient Earthquakes", Geological Society of America, p 29 – 237, November 2010.

"An Adaptive Monitoring Model for the Ageing Assessment of Concrete Containment Vessel", SFA Rafeeqi, **Sarosh H Lodi**, Rashid A Khan, N Sahar Zafar, NED University Journal, Pakistan, Vol. III, No. 1, May 2010.

"Partitioning of India – Eurasia convergence in the Pamir – Hindu Kush from GPS measurements", S Mohadjer, R Bendick, A Ischuk, S Kuzikov, A Kostuk, U Saydullaev, **S Lodi**, DM Kakar, A Wasy, M A Khan, P Molnar, R Bilham, and AV Zubovich, Geophysical Research Letters, Vol, 37, L04305, doi: 10.1029/ 2009 GL041737, 2010.

"Preliminary geodetic constraints on plate boundary deformation on the western edge of the Indian plate from TriGGnet (Tri-University GPS Geodesy Network)", M Asif Khan, Rebecca Bendick, M. Ismail Bhat, Roger Bilham, Din M. Kakar, S Faisal Khan, **Sarosh H Lodi**, M Sufyan Qazi, Bikram Singh, Walter Szeliga and Abdul Wahab, Journal of Himalayan Earth Sciences 41 (2008), 71-87.

"Fold and Thrust Portioning in a Contracting Fold Belt: Evidence from the 1931 Mach Earthquake in Baluchistan", Walter Szeliga, Roger Bilham, Daniel Schelling, Din Mohamed Kakar, and **Sarosh Lodi**, Tectonics, jointly published American Geophysical Union and European Geosciences Union, October 2009.

"Assessing the Project Management Culture in Construction Client Organizations in Pakistan – A Preliminary to Industry Performance Improvement", Rizwan U Farooqui, Syed M Ahmed and **Sarosh H Lodi**, Inaugural issue of the International Journal of Engineering and Management – IJEM, vol. 1, 2009.

"Models for Tension Stiffening in RC Slabs and Panels", **Sarosh H Lodi**, NED University Journal, Pakistan, Vol. V, No. 2, December 2008.

“Assessment of Pakistani Construction Industry – Current Performance and the Way Forward”, Rizwan U Farooqui, Syed M Ahmed and **Sarosh H Lodi**, International Journal for the Advancement of Performance Information and Value, Volume 1, Issue 1, pages 51 – 70, June 2008.

“Assessing Impacts of Low Bid Procurement on Performance of Public Work Construction Projects: A Case Study”, Rizwan U Farooqui, Syed M Ahmed and **Sarosh H Lodi**, Journal of Construction Procurement 13(2), 2007.

“Seismic Hazard in Karachi, Pakistan: Uncertain Past, Uncertain Future”, Bilham, R, **Lodi, SH**, Hough, S, Bukhary, S, Khan, AM, and Rafeeqi, SFA, Vol. 78, Number 6, pp 601-613, November/December 2007, Seismological Research Letter, USA.

“Deficiencies of the of the normal moment yield criterion for RC slabs”, IM May and **SH Lodi**, Structures and Building, Issue 60, Institution of Civil Engineers, UK, December 2005. (Awarded Howard Medal by the Institution of Civil Engineers, UK).

“Behaviour of Reinforced Concrete Beams Strengthened in Shear”, Rafeeqi, SFA, **Lodi, SH**, and Wadalawala, ZR, Volume 35, Number 1, January 2005, Journal of Ferrocement, IFIC, Thailand.

“The Behaviour of reinforced concrete elements subjected to bending and twisting moments”, IM May, P Montague, AAA Samad; **SH Lodi**, AS Fraser, Structures and Building, Vol. SB 146, Issue 02 Institution of Engineers, UK, May 2001.

“Shear behaviour of ferrocement thin webbed sections”, SFA Rafeeqi, **SH Lodi** and J Qureshi, Cement and Concrete Research, USA, Vol. 25, No. 5, July 1995.

“Comparative evaluation of reinforcing bars produced in Pakistan”, Abulkhair Masroor and **Sarosh H Lodi**, NED University Journal, Pakistan, Vol. 1, No. 2, July 1994.

International Conference Contributions:

“An Indigenous Model of Seismic Retrofit of Stone Masonry Structures”, MM Rafi, **SH Lodi** and SFA Rafeeqi, International Conference – Urban Habitat Construction Under Catastrophic Events – COST ACTION – C26, University of Naples, Italy, 16 – 18 September 2010.

“Accuracy of Cost Estimates of Construction in Pakistan”, Farrukh Arif, **Sarosh H Lodi** and Rizwan U Farooqui, Second International Conference Construction in Developing Countries, “Advancing and Integrating Construction Education, Research and Practice”, ICCDIC 2010, 3 – 5 August 2010, Cairo, Egypt. Jointly organised by NED University of Engineering and Technology, Pakistan and Florida International University, USA.

“Empirical Study of Financial Accounting and Cash Flow Management Practices of Construction Contractors in Pakistan”, Rizwan U. Farooqui, Muhammad Saqib, Syed M. Ahmed and **Sarosh H. Lodi**, Second International Conference Construction in Developing Countries, “Advancing and Integrating Construction Education, Research and Practice”, ICCDIC 2010, 3 – 5 August 2010, Cairo, Egypt. Jointly organised by NED University of Engineering and Technology, Pakistan and Florida International University, USA.

“Bid Procurement Practices in Pakistani Construction Industry – An Assessment of Bidding Requirements, Bidder Qualification & Evaluation Criteria, and Client Satisfaction Index on Traditional Design-Bid-Build Projects”, Rizwan U. Farooqui, Muhammad Saqib, **Sarosh H. Lodi** and Syed M. Ahmed, Second International Conference Construction in Developing Countries, “Advancing and Integrating Construction Education, Research and Practice”, ICCDIC 2010, 3 – 5 August 2010, Cairo, Egypt. Jointly organised by NED University of Engineering and Technology, Pakistan and Florida International University, USA.

“Risks in Construction – An Empirical Study of the Responsibility Allocation of Risks and Risk Control Measures in the Pakistani Construction Industry”, Rizwan U. Farooqui, Farrukh Arif, Muhammad Saqib and **Sarosh H. Lodi**, Second International Conference Construction in Developing Countries, “Advancing and Integrating Construction Education, Research and Practice”, ICCDIC 2010, 3 – 5 August 2010, Cairo, Egypt. Jointly organised by NED University of Engineering and Technology, Pakistan and Florida International University, USA.

“Earthquake Performance of RC Structures - Lessons To Be Learnt”, MM Rafi, SFA Rafeeqi, **SH Lodi** and SH Siddiqui, Proceedings of Third International Symposium on Infrastructure Engineering in Developing Countries (IEDC-2010), 1 – 3 July 2010, Karachi, Pakistan.

“Contribution of NED University in Earthquake Disaster Management and Related Capacity Building”, SFA Rafeeqi and **Sarosh H Lodi**, Proceedings of Third International Symposium on Infrastructure Engineering in Developing Countries (IEDC-2010), 1-3 July 2010, Karachi, Pakistan.

“Creep on the Ornach-Nal Fault, India’s Western Boundary with Asia”, Bilham, R; Szeling, W; **Lodi, S**, Proceedings of the Annual meeting of Seismological Society of America, 21 – 23 April 2010, Portland, USA.

“Factors Affecting Success of Construction Projects In Pakistan”, Rizwan U Farooqui , Muhammad Saqib, **Sarosh H Lodi**, and Syed M Ahmed, published in 2nd Construction Industry Research Achievement International Conference (CIRAIC2009), Kuala Lumpur, Malaysia, November 3 – 5, 2009.

“Adaptive Conceptual Framework for seismic Vulnerability Assessment of Reinforced Buildings in Pakistan”, M Haroon, SFA Rafeeqi and **SH Lodi**, COMPDYN 2009, June 2009, Greece.

“Performance of Park Structures Made by Ferrocement”, AM Khan, SFA Rafeeqi and **SH Lodi**, Ninth International Symposium on Ferrocement and Thin Reinforced Cement Composites: Green Technology for Housing and Infrastructure Construction, May 2009, Bali, Indonesia.

“Quality Culture Auditing for Construction Contractors in Pakistan”, M Saqib, RU Farooqui, **SH Lodi** and SFA Rafeeqi, Fifth International Conference on Construction in the 21st Century (CITC-V), Collaboration and Integration in Engineering, Management and Technology, May 2009, Istanbul, Turkey.

“Quantifying the Criteria for Performance Appraisal of Project Managers in Pakistani Construction Industry”, M Saqib, RU Farooqui, **SH Lodi** and SFA Rafeeqi, Fifth International Conference on Construction in the 21st Century (CITC-V), Collaboration and Integration in Engineering, Management and Technology, May 2009, Istanbul, Turkey.

“Detailed Estimating Practices of Construction Firms in Pakistan”, Rizwan U Farooqui, Farrukh Arif, Syed M Ahmed, **Sarosh H. Lodi** Fifth International Conference on Construction in the 21st Century (CITC-V), Collaboration and Integration in Engineering, Management and Technology, May 2009, Istanbul, Turkey.

“An Assessment of General Trends Adopted for Bidding and Procurement in the Construction Industry of Pakistan”, Rizwan U Farooqui, Muhammad Saqib, Farrukh Arif, **Sarosh H Lodi**, First International Conference Construction in Developing Countries, “Advancing and Integrating Construction Education, Research and Practice”, ICCDIC 2008, 4 and 5 August 2008, Jointly organised by NED University of Engineering and Technology, Pakistan and Florida International University, USA.

“Assessment of Critical Success Factors for Construction Projects in Pakistan”, Muhammad Saqib, Rizwan U Farooqui, **Sarosh. H. Lodi**, First International Conference Construction in Developing Countries, Advancing and Integrating Construction Education, Research and Practice, ICCDIC 2008, 4 and 5 August 2008, Jointly organised by NED University of Engineering and Technology, Pakistan and Florida International University, USA.

“An Assessment of Contractor Perceptions on Critical Causes of Risks – A Case Study of Pakistani Construction Industry”, Rizwan U Farooqui, Syed M Ahmed and **Sarosh H Lodi**, PM-04 – 4th SPCM and 1st IPMA/MedNet Conference Project Management Advances, Training and Certification in the Mediterranean, 29-31 May 2008, Chios Island, Greece.

“Assessing the PM Culture in Construction Client Organizations in Pakistan – A Preliminary to Industry Performance Improvement”, Rizwan U Farooqui, Syed M Ahmed and **Sarosh H Lodi**, PM-04 - 4th SPCM & 1st IPMA/MedNet Conference Project Management Advances, Training & Certification in the Mediterranean, 29-31 May 2008, Chios Island, Greece.

“Preliminary geodetic results from a sparse Central Asian geodetic network”, Mohadjer, S, Ischuk, A, Schelochkov, G, Wasy, A, Kakar, D, **Lodi, S**, Bendick, R, Bilham, R, Joint Assembly of the American Geophysical Union, Fort Lauderdale, May 2008, Florida, USA.

“A Structured Approach to Develop an Effective Emergency Preparedness and Disaster Response Plan for Contractors”, Rizwan U Farooqui and **Sarosh H Lodi**, 4th i-Rec International Conference on Post Disaster Reconstruction, Christchurch, New Zealand, 30th April – 2nd May 2008.

“Implementation of Quality Standards in Educational Institutions”, M Tufail and **Sarosh H Lodi**, International Seminar on Higher Education in the Muslim World: Challenges and Prospects, March 24 – 25, 2008, International Islamic University of Malaysia, Kuala Lumpur, Malaysia.

“Pakistan Construction Industry – Total Quality Management?”, Rizwan U Farooqui, **Sarosh H Lodi** and Khaliq – ur – Rashid Kayani, International Workshop on Cement Based Materials and Civil Infrastructure, December 10 – 11, 2007, Karachi, Pakistan.

“Assessing the Quality Culture in Client Organizations in Pakistan Construction Industry – A Way Forward to TQM Implementation in Pakistan”, Farooqui, RUH, **Lodi, SH**, Rafeeqi, SFA, and Panthi, K, Fourth International Conference on Construction in the 21st Century Accelerating Innovation in Engineering, Management and Technology, July 11-13, 2007, Gold Coast, Australia.

“Risk Management Perceptions and Trends among Contractors in Pakistan Construction Industry”, Rizwan U Farooqui, **Sarosh H Lodi** and Farhan Saleem, Fourth International Conference on Construction in the 21st Century Accelerating Innovation in Engineering, Management and Technology, July 11-13, 2007, Gold Coast, Australia.

“Towards a more holistic and research oriented approach to engineering design in seismically active regions of Pakistan”, Boshier, LS, Sohail, M, **Lodi, SH**, and Rafeeqi, SFA, New Silk Route – Design, Education and Research, February 10 – 11, 2007, Karachi, Pakistan.

“ISO 9001 Certification for Higher Educational Institutions in Pakistan”, M Tufail and **Sarosh H Lodi**, 1st International Conference on Assessing Quality in Higher Education ICAQHE, 11th – 13th December 2006, Lahore.

“Development of GIS Model for SCRS using Conventional and Advanced Earthquake Hazard Estimation Methodologies”, **Sarosh H Lodi** and Mukesh Kumar, Seventh International Congress on Advances in Civil Engineering, October 11-13, 2006, Yildiz Technical University, Istanbul, Turkey.

“Comparison of Results of Constitutive Model for Ferrocement Elements with Results Obtained Through Conventional Approach”, FEERO-8, **SH Lodi**, SFA Rafeeqi, GA Jokhio and AJ Sangi, Eighth International Symposium and Workshop on Ferrocement and Thin Reinforced Cement Composites, Bangkok, Thailand, February 2006.

“Policy Framework for Management of Physical Infrastructure in Pakistan”, **Lodi, SH**, Iqbal, K, Farooqui, RUH, and Rafeeqi, SFA, Third International Conference on Construction in the Twenty First Century (CITC-III), September 2005, Athens. Organised by National Technical University of Athens, Athens, and Florida International University, USA.

“Prediction of Response Spectral Parameters for Bhuj Earthquake (26th January 2001), Using Component Attenuation Modelling Technique”, **SH Lodi** and Mukesh Kumar Fifth Earthquake Resistant Engineering Structures (ERES 2005) Conference, Skiathos, Greece, June 2005.

“Parametric Study of Ductility in Reinforced Concrete Cross-section”, **SH Lodi** and A Jabbar Sangi, Second International Conference on Concrete and Development, May 2005, Tehran. Organised by Building and Housing Research Centre, Ministry of Housing and Urban Development, Iran.

“Metamorphosis of Civil Engineering into Urban Engineering”, SFA Rafeeqi and **Sarosh H Lodi**, Second International Symposium on Infrastructural Engineering in Developing Countries, IEDC 2004, September 2004, NED University of Engineering and Technology.

“Bridge Database Management System”, SFA Rafeeqi, **SH Lodi** and R.A. Khan, Second International Conference on Construction in the Twenty First Century: Sustainability and Innovations in Management and Technology (CITC-II), December 2003, Hong Kong. Organised by Hong Kong Polytechnic University, Hong Kong and Florida International University, USA.

“Earthquake Consequences and Response”, **SH Lodi** and SFA Rafeeqi, International Seminar on Natural Hazards Monitoring, January, 2002 Karachi, Pakistan. Jointly Organized by ISNET/COMSTECH/ IDB and SUPARCO.

“Behavior of Reinforced Concrete Beams Strengthened in Shear”, SFA Rafeeqi, **SH Lodi** and ZR Wadalawala, FEERO-7, Seventh International Symposium on Ferrocement and Thin Reinforced Cement Composites National University of Singapore, June 2001.

“Non-Linear Analysis of Ferrocement Cross-Sections”, **SH Lodi**, SFA Rafeeqi and GA Jakhio, FEERO-7, Seventh International Symposium on Ferrocement and Thin Reinforced Cement Composites National University of Singapore, June 2001.

“Some observations on the accuracy of the normal moment yield criterion for reinforced concrete slabs”, IM May and **SH Lodi**, Concrete Communication Conference, Southampton, UK, July 1998.

“The analysis of reinforced concrete slab elements subjected to bending and twisting”, **SH Lodi** and IM May, Structural Engineering and Computational Technology Seminar, Heriot-Watt University, 1- 2 May 1995.

“Use of recycled concrete aggregate in concrete”, SFA Rafeeqi, **SH Lodi**, H Iqbal, Eighth International Conference on Solid Waste Management and Secondary Materials, Philadelphia, Pennsylvania, USA, 15-18 Nov. 1992.

National Conference Contributions:

“Advances in Earthquake Engineering”, **Sarosh H Lodi**, Earth Sciences Pakistan 2010: New Developments, September 20-22, 2010, Baragali Summer Campus, Department and National Centre of Excellence in Geology, University of Peshawar.

“Earthquake Hazard Assessment Scenario of Metropolitan City of Karachi”, **Sarosh H Lodi** and M Kumar, 30th International Nathiagali Summer College on Physics and Contemporary Needs, July 2005, Nathiagali, Pakistan. Organised by Pakistan Atomic Energy Commission.

“Integrated System for Bridge Management System”, SFA Rafeeqi, **SH Lodi** and RA Khan, Seminar on New Innovations in Bridge Engineering, September 2003, Islamabad. Organised by National Highway Authority.

“A Culture of Academic Excellence: Implementing the Quality Principles in Higher Education”, **Sarosh H Lodi**, Pakistan’s Second National Conference on Quality Assurance in Education 2003, September 2003, Karachi. Organised by Pakistan Institute of Quality Control.

“Evaluation of Ferrocement as lining material for canals”, SFA Rafeeqi, **SH Lodi** and MM Rafi, National workshop on Water Problems in Pakistan, January 2003, Lahore. Organized by Water and Power Development Authority.

“Constitutive Modelling of Ferrocement Elements”, **Sarosh H Lodi**, First International Civil Engineering Congress, Institution of Engineers, Karachi, 1-2 February 2000.

“Model for post cracking response of reinforced concrete”, **Sarosh H Lodi**, First Workshop on Mathematical Modelling: Its Application and Use, Islamabad, 20 – 21, July 1998.

AWARDS/ HONOURS:

Awarded Howard Medal by the Institution of Civil Engineers, UK, January 2005.

Best Teacher Award by Higher Education Commission, Pakistan for the year 2002-03.

Overseas Research Students Award for years 1995-96 and 1996-97 by Committee of Vice Chancellors and Principals, UK.

Central Overseas Training Scholarship from Ministry of Education, Pakistan, 1994-98.

Merit scholarship to study in USA 1986-88 from Quaid – e – Azam Aligarh Scholarship Trust, Karachi, Pakistan.

Awarded pride of performance in academic year 1980-81, NED University of Engineering and Technology.

Merit scholarship for years 1977 to 79 from Directorate of College Education, Karachi, Pakistan.