

**REPORT OF FACULTY DEVELOPMENT PROGRAMME
IN
DEPARTMENT OF CIVIL ENGINEERING
ON
ADVANCED FOUNDATION DESIGN**

A five day Faculty Development Programme (FDP) under the guidance of Dr. APJ Abdul Kalam Technical University, Uttar Pradesh, Lucknow was organized by Department of Civil Engineering 8th – 12th July, 2019 on “**Advanced Foundation Design**” at Ajay Kumar Garg Engineering College, Ghaziabad. The FDP was conducted as an initiative to enrich the knowledge of faculty members through interaction with eminent personalities and resource persons from Industry and academia.

Total 21 participants from various Technical Institutes as well as faculty of Department of Civil Engineering of Ajay Kumar Garg Engineering College, Ghaziabad attended the FDP and got benefited.

Dr. Bharat Bhushan Prasad, Professor & HoD CE and Dr. Rakesh Srivastava, Professor CE marked the formal onset of the FDP by welcoming the resource persons Mr. N.C. ADAK, Dr. B.K.Singh, Dr. Amit Kumar Shrivastava, Dr S.C.Maiti, Prof.. Akhlesh Kumar Srivastava and Mr Jatinder Singh Pahuja from with a sapling.

Mr. N.C.ADAK Senior General Manager (Engg-TL) in Power Grid Corporation Of India Ltd. delivered lecture on design and construction of pile foundation in river crossing locations. In his lecture he discussed the usage of both pile and well foundation for transmission line projects. He also discussed the theoretical design methodologies which we still can use while designing these foundations.

Dr. B.K.Singh, Professor in Civil Engineering Department of ABES Engineering College delivered a lecture on “Construction of piles for pipe conveyor belt under seawater”. He discussed how cast-in-situ foundations are constructed. In his lecture he discussed the complete process of casting pile foundation, starting from boring then reinforcement cage designing and finally concreting by tremie pipe method.

Dr. Amit Kumar Shrivastava, Professor in the Department of Civil Engineering enlightened the participants on Sustainable construction practice for Foundations. and he also delivered a lecture on Rainfall induced landslide-early warning and mitigation. In that he discussed his recent work on landslide monitoring system in northeast region of India.

Dr.S.C.Maiti, technical consultant at Ultra Tech Cement Limited delivered a lecture on Material and Concrete Mix for the foundation structure. He extensively discussed about Concrete Technology in that he mentioned about the various properties of concrete, concrete mix design, and effect on strength of concrete by adding fly ash or Granular Blast Furnace Slag.

Mr. Akhlesh Kumar Srivastava, Head of the department of Civil Engineering at IMS Engineering College Ghaziabad enlightened us with the basics of the machine foundation in which he discussed how to design a machine foundation which can bear vibrations and impacts from a machine.

Mr Jatinder Singh Pahuja, Managing Director of Paragon Consultant & “Senior Principal Consultant” at “Tandon Consultant Pvt Ltd”. He discussed about caisson foundation and its functions, various types of caisson foundation. He also showed us how to cast a caisson foundation and what are the challenges involved in it.

Dr. Prashant Muherjee,

He delivered a lecture on Effect of liquefaction on shallow foundation. In that he discussed what is liquefaction and how it occurs. He also discussed about how to minimize the impact of liquefaction.

On last day of FDP feedback from all participants was collected and certificates were distributed to the participants. Dr.B.B.Prasad concluded the FDP by conveying his heartiest regards to the resource persons and thanks to all the participants. Overall this FDP was beneficial and knowledgeable experience for all the participants to learn about scope and significance of Advanced Foundation Design.

Annexure-I: Course Contents of FDP

Annexure-II: Profile of Resource Person.

Course Contents of FDP

The Faculty Development Programme (FDP) upgraded the knowledge and provided a better understanding of the design and construction process as well as knowledge of modern foundation techniques through following five day sessions:

Day-1:

- Design and construction of pile foundation in river crossing locations.
- Construction of piles for pipe conveyor belt under seawater.

Day-2:

- Sustainable construction practice for Foundation.
- Rainfall induced landslide-early warning and mitigation.

Day-3:

- Material and concrete mix for the Foundation Structures.
- Introduction-to Machine Foundation.

Day-4:

- Design and construction aspects of Caisson Foundation.
- Dynamic bearing capacity of soil.
- Piezoelectric Sensors in RCC Footings

Day-5:

- Effect of liquefaction of Shallow Foundation
- Interactive session.

Profile of Resource Persons

Mr. N.C. ADAK

Mr. N.C. ADAK is Senior General Manager (Engg-TL) in Power Grid Corporation Of India Ltd. He completed his B.E in Civil Engineering and M.E (Structural Engineering) from Jadavpur University, Kolkata. He has more than 36 Years of work experience.His area of Specialisation is engineering of river crossing tower & foundation including pile & well type foundation,substation & transmission line civil design work.

He worked for National Thermal Power Corporation Of India Ltd (Ntpc) ,M.N.Dastur & Co. (P) Ltd., Calcutta & as a Regular faculty member of training of executives and Supervisor of National Power Training Institution (NPTI),Faridabad, POWERGRID,,Maneswar, & Central Bureau of Irrigation and Power (CBIP), New Delhi & Gurgaon.

He is experienced in the Design of transmission line towers, Tower foundations, Pile & Well foundation of river crossing location, Rectification of damaged piles in river crossing locations. Coordination of complete design activity & Preparation of tender documents ,Evaluation of Bid, Project Co-ordinations, Testing of Tower,conductor, insulator and hardware fittings for Transmission line.Preparation of Field Quality Plan and its implementation.Design of pile foundation for Sub-station as well as river crossing location of Transmission lines, Control Room Buildings,Switchyard towers & tower Foundation , Equipment foundation ,Quarters, Community center etc.Design of basement, tunnel, machine foundation, Pile foundation for various Building as well as Machine foundation , Roads ,Drains & rails culvert etc for Visakhapatnam Steel Plant of Rashtriya Ispat Nigam Limited (RINL).

Dr. B.K.Singh

Dr. B.K.Singh is Professor in Civil Engineering Department of ABES Engineering College, Ghaziabad.His academic degrees include B.E.(Civil), M.E.(Civil, Major: Prestressed Concrete structures) from Bangalore University, Proficiency Certificates in Alternative Building Technology, New Materials in Concrete, Design of Concrete Structures from Indian Institute of Science Bangalore and PhD in Structural Engineering from Indian Institute of Technology Delhi.His teaching, research and consultancy experience spans over twenty five years including 9 years as Head - Civil/Dean of Students Affairs. He is a member of professional bodies, Viz ICI, ISTE, IEI, IASE, ISRMTT.

Dr. Amit Kumar Shrivastava

Dr. Amit Kumar Shrivastava is Professor in the Department of Civil Engineering, and Associate Dean (Outreach & Extension Activity) Delhi Technological University, Delhi. B.E, M.E, PhD (IIT Delhi), LMIGS, LMISRMTT, MISMGE, has more than 23 years of hand on experience.His areas of interests are geotechnical engineering, strength and deformation behavior of rocks and rock masses, pavement engineering and modern & sustainable construction practices.He is a

consultant for various projects of Public Works Department Delhi, Central Public Works Department, New Delhi Municipal Corporation, Delhi Metro Rail Corporation, Municipal Corporation of Delhi, Delhi State Industrial Development Corporation, Delhi Development Authority and many other government and private organization. He is having more than 50 research publications at national and international level Journal and Conferences. Received First Prize in the State Level Technical Paper Competition-1997, organized by ENGINEERS FORUM, CHIPLUN (M.S.), appreciation letter from UNESCO for contribution as convener of International workshop from 8-19 August 2010 on Climate Change and Water Resources in South Asia, jointly organized by UNESCO, COLUMBIA University (USA) and DTU, Delhi and recipient of Biennial IGS-H.C. Verma Diamond Jubilee award for Innovative Instrument Design for Year 2010-2011.

Dr. S.C.Maiti

Dr Subhash Chandra Maiti is technical consultant at Ultra Tech Cement Limited. He is a PhD in Structural Engineering from I.I.T, Kharagpur. He was a Lecturer in BITS, Pilani in 1971, and after that he joined NCCBM, Ballabgarh as Scientist, and Joint Director in 2002-2003. While at NCCBM, he has carried out a large No. of R&D Projects in the field of Concrete Technology, and was also a Committee member for the revision of IS:456-2000. He was technical consultant to UltraTech Cement Ltd from 2003 to 2016. Dr Maiti published about 80 research papers, and at present is a member of a No. of technical committees of B.I.S [connected to revision of IS:10262 (Concrete Mix Design), revision of IS:1199 (Fresh Concrete), IS:516 (Hardened Concrete) and IS:457 (Mass Concrete)], and a committee member of the Rigid Pavement Committee of the Indian Roads Congress. He is also a Technical Expert of the Quality Council of India, for the audit of Ready Mixed Concrete plants, in the country.

Mr. Akhlesh Kumar Srivastava

Mr. Akhlesh Kumar Srivastava is Head of The department of civil engineering at IMS Engineering College Ghaziabad. He is B.E. in Civil Engineering from SATI Vidisha Bhopal University and M. Tech. in Structural Engineering from Govind Ballabh Pant University Of Agricultural And Technology Pantnagar.

In industry he worked on major Civil Engg Projects of National Repute e.g. Lower Lagyap Hydel Project Sikkim, Metro Rail Project at Kolkata, Rajghat Masonry Dam at Lalitpur (UP). Korba Super Thermal Power Project at Korba (CH). He also worked in Corporate office, NTPC EOC Noida. His main responsibility was the development of integrated townships of NTPC at different locations which included design of all the structure including all services e.g. Water Supply, Sewage Network, Roads, Sewage Treatment Plants etc. He held various positions at HI -Tech Institute Of Engineering And Technology Ghaziabad. National Thermal Power Corporation Ltd National Projects Construction Corporation (NPCC).

Mr Jatinder Singh Pahuja

Mr Jatinder Singh Pahuja is Managing Director of Paragon Consultant & "Senior Principal Consultant" at "Tandon Consultant Pvt Ltd". Mr Pahuja has M.Tech in Structural Eng from IIT, Delhi. He is also guest faculty of "Indian Academy Of Highway Engineers", and has

contributed various papers enumerating the design requirements based on latest design codes and state-of-art construction technique adopted in building modern bridges.

He has extensive experience in the analysis and design of major bridges, buildings and large span structures. Some of the projects handled by him are Clover Leaves Flyover in Delhi, LRT Viaduct for Kuala Lumpur, PSC bridges on Jammu-Udhampur Link, Allahabad Bypass (Ganga Bridge), Yamuna Bridge for Delhi Metro Rail Project. Elevated Viaduct Line-1 & Line-3 of Delhi Metro Rail Project, Approach Structure to Signature Br, Extradosed bridge at Moolchand, Barapullah Extradosed bridge Across River Yamuna, Delhi, East-West Line Of Ahmedabad Metro. He is well versed with various latest construction techniques & equipments adopted for bridge construction, and has provided technical advice during construction of a number of bridges

Dr. Bharat Bhushan Prasad

Prof. Bharat Bhushan Prasad is the HoD of Department of Civil Engineering. He Graduated in Civil Engineering winning Gold Medal by Patna University. He secured his M.Tech. degree in Civil Engineering with specialization in Soil Dynamics from IIT Kanpur in 1975 and Ph.D. in 1987. Apart from 40 years of experience in teaching and research, he has worked as a renowned consultant in the field of geotechnical engineering. He was awarded the Gold Medal by Indian Geotechnical Society, New Delhi for best research paper on Soil dynamics. He has published two books on Soil Dynamics and Earthquake Engineering (PHI New Delhi). He has guided several research scholars for M.Tech & Ph.D Program and 21 publications in International Journals/Symposium. He is a fellow of the Institution of Engineers (India), the Institution of Bridge Engineers, Chartered Engineers; Institution of Engineers (India).He is also a life member of Indian Society of Technical education.

Mr.Prashant Mukherjee

Mr.Prashant Mukherjee is Head in Department of Civil Engineering, G.L.Bajaj Institute of Technology, Greater Noida.He has done PhD in the Department of Civil Engineering, JMI, N.Delhi with specialization on Geotechnical Engineering, M.Tech in Civil Engineering from IIT Kharagpur, BE in Civil Engineering from BCE Bhagalpur.He is a member of Indian building congress,Indian National Trust For Art And Cultural Heritage (Intach),American Society of Civil Engineering, Institution of Engineers. International Association of Hydrological Sciences, UK,Institution of Public Health Engineers, India

Dr. Rakesh Srivastava

Dr. Rakesh Srivastava is working as Professor in Civil Engineering in Ajay Kumar Garg Engineering College, Ghaziabad. He received his B.Tech. degree in Civil Engineering with honours from Harcourt Butler Technological Institute, Kanpur (HBTI, Kanpur). He has done his M.E (Hons.) and Ph.D. in Civil Engineering with specialization in Structures from Motilal Nehru National Institute of Technology Allahabad (MNNIT, Allahabad).

He has great interest in structural analysis and structural related problems. His research interests are Concrete Technology, Structural Health Monitoring, piezo-electric sensor and transducer to various structural engineering related problem and high rise buildings/ structures. He started his own consultancy as Prasad Consultant for structural designing and planning of Civil Engineering

Structures. As a teaching experience for more than 23 years, he has worked at different positions in AICTE approved Engineering Colleges as Dean of Student Welfare, Dean Engineering and Controller of Examinations. He is a Fellow member of the Institution of Engineers (India). He had organized and attended many FDP's, workshops, National seminars and International Seminars. He had also written 7 technical papers for International/National Journals/Conferences.