

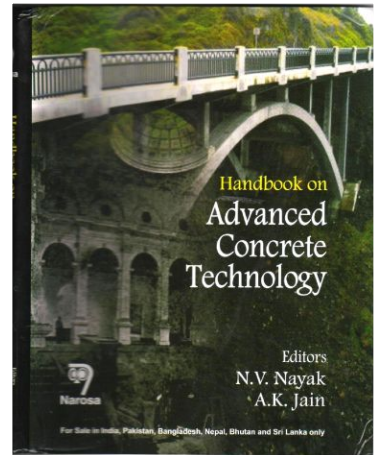


ICI UPDATE

An Electronic-Bulletin from the Indian Concrete Institute

MASTER®
» BUILDERS
SOLUTIONS

BASF's brand for the construction industry



From the President's Desk



Dear members of ICI,

One of the earliest citations of Reinforced Concrete construction in India is of flats built for mill workers in Mumbai (then Bombay) in 1916, which is exactly 100 years ago. Load bearing masonry structures have been with us for a much longer period and advent of RCC did not subdue the masonry construction since the country started to develop rapidly in the pre and post-independence era.

In recent times, the ageing structures are undergoing demolition in a big way. Even not so old buildings are giving way to new high rise structure as land costs escalate in urban and semi-urban areas. Adding to the growing menace of waste disposal from demolition sites is the considerable amount of wastes generated at sites of new construction. The disposal of debris from demolition and renovation sites in the real estate sector, construction and repair of roads, flyover, bridges etc., is creating environmental havoc. Enormous debris also gets generated sometimes at locations of natural disaster like earthquake, floods etc.

The total C&D waste generated in India just by buildings is said to be more than 500 million tonnes per year. The scenario becomes very scary if the waste generated by infrastructure projects such as roads and dams is added. Right now a very big portion of all this C&D waste is being illegally dumped to fill up water bodies and wetlands around urban centres for real estate development. The rest is just being dumped into rivers and open spaces.

Being seized of the gravity of the situation, some of the leading consultants and senior engineers of the CPWD started seminars and workshops on possible use of Construction and Demolition (C&D) wastes in new construction. Indian Concrete Institute also joined hands in organizing some of these awareness building and brain storming sessions. ICI has also brought out a very useful Guideline on the use of C&D Wastes.

Ministry of Environment and Forest, Government of India has notified Construction and Demolition Waste Management Rules in March 2016. According to these rules, "every waste generator shall be responsible for collection, segregation of concrete, soil and other construction and demolition waste generated separately, deposit at collection centre so made available by the local body or handover it to the authorised processing facilities, ensure that there is no littering or deposition so as to prevent obstruction to the traffic or the public or drains". This makes it all the more necessary for all the stakeholders to be aware of segregating and processing of C&D wastes and ways to re-use it.

One more educative workshop is planned on 21st June 2016 by ICI-Chennai Centre at IIT Madras. It will be a great opportunity for the practicing engineers, field engineers and students to get the complete picture about demolition techniques, equipment, processing for use, supply chain management etc. It is highly recommended that all concerned take advantage of this opportunity and benefit from the deliberations.

Dr. M. R. Kalgal
President

Hand Book on 'Advanced Concrete Technology' authored by more than 25 Eminent Experts is available at 20% discounted price of Rs.850/- for ICI members only. Postage extra. Please contact Ph : 044-24912602 ; email : ici4@airtelmail.in.

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Dear Members,

Pl update your contact details, if there is any change.

R. Radhakrishnan
Secretary General

ICI Premium Quality Designer
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For Your Requirements, Pl Contact :
ICI HQ at 044-24912602 Email : ici4@airtelmail.in * Postal Charges Extra



ICI - AHMEDABAD CENTRE

National Seminar:

ICI-Ahmedabad Centre organized a National Seminar on “Advanced Concrete Materials, Technology & Practices” at Ahmedabad on 9th January 2016. The Seminar received an overwhelming response with the presence of more than 370 Delegates. The Seminar was inaugurated by Dr. Manamohan R. Kalgal, President, ICI.



National Anthem

and better Centre. He also spoke on the future activities of the Centre. Dr. Bimal Patel delivered the Keynote Presentation on “Concrete Beauty in Architecture”.



Shri. S.I. Patel welcoming Dr. Rishi Gupta



Er. V.K. Pandya welcoming Dr. M.R. Kalgal



Shri. Devendra Shah welcoming Dr. Himanshu Rajee



Shri. Suhas Joshi welcoming Dr. Bimal Patel



Shri. Vatsal Patel welcoming Shri. Nitesh Shah

Er. V.K. Pandya, Chairman, ICI-Ahmedabad Centre, in his welcome address thanked all who helped him in organizing the Seminar and called upon fellow engineers and other professionals to join ICI, to make it a bigger



Shri. P.S. Patel welcoming Shri. S.J. Desai



Shri. J.R. Patel welcoming Shri. Anand Tatu



Shri. Rohit Pandya welcoming Shri. Samir Surlaker



Shri. Urmil Dave welcoming Er. R. Radhakrishnan



Dr. M.R. Kalgal welcoming Prof. Manu Santhanam



Shri. Raju Anklesaria welcoming Shri. Vivek Naik

The Speakers included Dr. Himanshu Raje, Raje Structural Consultants Pvt. Ltd, Mumbai, Dr. Rishi Gupta, Faculty Member, Department of Mechanical Engineering, University of Victoria, Canada, and Prof. Manu Santhanam, IITM, Chennai. The topics covered are The Skyscrapers-Pushing Vertical Limit, Durability of High Performance Concretes & Specialty Concretes.

ICI - BENGALURU CENTRE

Concrete Panorama & Deminar 2016:



Indian Concrete Institute-Bengaluru Centre conducted their regular flagship event Concrete Panorama & Deminar 2016 on 25-26th, February 2016 at Nimhans Convention Centre, Bengaluru. The Concrete



Panorama was a 2-Day National Programme on "Concrete Admixtures & Waterproofing Systems-Best Practices for Durable Structures" showcasing latest developments in India and abroad.



The Deminar was a unique feature of "Concrete Panorama" wherein live demonstration of application of Concrete Admixtures & Waterproofing Systems was carried out simulating field conditions, which was beamed live to the audience. In addition, an exhibition was organized to showcase the products and systems on Concrete Admixtures & Waterproofing.

This Deminar addressed critical issues related to concrete admixtures and focused deliberations on water leakages and more light was thrown on the material science, methodologies and techniques of design and execution of waterproofing.

ICI-BENC had lined up excellent speakers from all over India & abroad viz., Prof. M.S. Shetty, Er. Sheshadri, Er. M.N. Ramesh, Dr. Thomas Teichmann and Er. Robin Debeer for the Seminar, who are experts in their respective fields.

Companies and their subsidiary service providers made use of this opportunity to showcase their products. This kind of Deminar is the only one in India, which is very popular among Engineers and Practitioners to learn through Practical Demonstrations, Exhibitions and Seminar on new products and technologies.

There was a participation of 920 plus delegates comprising of Applicators and Producers from Construction Industry, Structural Consultants, Building Material Manufacturers, Decision Makers from Govt. Agencies such as BBMP, Bangalore Metro,

Bangalore Development Authority, CPWD, PWD, BWSSB, KRDCCL, KUIDFC & academic and research experts and students across India and abroad for the two days event.

The Programme was inaugurated by the Chief Guest, Prof. M.S. Shetty, Consultant & Author on Concrete Technology and was presided over by Dr. Manamohan R. Kalgai, President, Indian Concrete Institute. Guests of Honour were Er. Vivek Naik, President-Elect, ICI, Dr. Thomas Teichmann, CEO (Concrete Research & Consulting), G. Tecz Engineering, Kassel, Germany, Er. K. Jayasankar, Vice-President (South), ICI, Er. R. Radhakrishnan, Secretary General, ICI and Er.M. Ravishankar, President, RMCMA & G.C. Member, ICI.

Welcome Address was given by Dr. Aswath M.U., Chairman, ICI-Bengaluru Centre.

Dr. Manamohan R. Kalgai gave the presidential address followed by the briefing of Deminar 2016 highlights. The talk on Usage of Chemical Admixtures with Ready-Mix Concrete Scenario in India was delivered by Shri. M. Ravishankar.

Vote of thanks was given by Er. Kaushik Hajra, Secretary, ICI-BENC.

Er. N.R. Ashok and Er. Nagesh Puttaswamy were the Anchors for the two-day programme. All the senior members of ICI-Bengaluru Centre, Advisory Committee Members and Organizing Committee Members actively participated in the event to make the programme a grand success.

During “CONCRETE PANORAMA”, following activities were conducted:

Presentation of State-of-the-Art Technologies & Waterproofing Systems:

● **Presentations by Eminent Personalities related to Concrete admixtures & Waterproofing Systems.**

1. Prof. M.S. Shetty - Presentation on “Temperature Controlled Concrete for Effective Waterproofing”.
2. Dr. Thomas Teichmann - Presentation on “Outstanding UHPC Materials with Generative Development and Optimisation Methods”.
3. Er. S. Sheshadri - Presentation on “Spray Applied 2 Component PU WP System”.
4. Mr. M.N. Ramesh - Presentation on “Special Purpose Concrete Admixtures”.
5. Er. Sunny Surlaker - Presentation on “State of the Art Waterproofing Systems”.
6. Er. Srinivas Prasad - Presentation on “La Green Products”.

● **Presentations on Performance Enhancing Mineral Admixtures in Concrete.**

1. Er. Yatin Joshi - Presentation on Alcofine
2. Er. L.R. Manjunatha - Presentation on JSW Slag
3. Er. Robin Debeer - Presentation on Ashtech Processed Fly Ash

Demonstration of State-of-the-Art Technologies & Waterproofing Systems:

● **Demonstration on new generation superplasticizers for achieving desired properties of concrete in fresh and hardened state.**

1. Mr. M.N. Ramesh, Talrak - High Performance Concrete
2. Mr. Tapan Kr. Maji, HR Johnson & (RMC India) Previous Concrete.
3. Mr. Nagaraj B.S., Fosroc - Polyurea System Solution for Green Roof/Podium Waterproofing

4. Er. Jaswanth Sobhana, BASF INDIA LTD., Demo on Waterproofing Protective Systems for Wet areas, Showers & Bathrooms.

5. Dr. Shivaprasad , Kiran Global Chems Limited, Geopolymer Concrete & Geo-Cement.

● **Demonstration on Innovative Quality Control Devices.**

Thermal Imaging FLIR (Identification of Cracks)

● **Demonstration of use of alternative materials.**

1. Dr. Ramani - Geopolymer Concrete
2. Er. Renukaprasanna - Temperature Controlled Concrete, Building Products
3. Er. Parthiban - Triveni Sand

● **Felicitation of Industry Professional**

1. Sri. M Dinakaran
2. Sri. D Raji Rajan
3. Sri. C N Kumar
4. Sri. C V Parthasarathy
5. Sri. Ramesh Lakshman Bhat Joshi

● **Students Chapters Activity during Concrete Panorama:**

1. Prize for Best Student Movie Making Competition:
 - a. MSRIT College of Engineering, Bengaluru
 - b. BIT College of Engineering, Bengaluru
2. Prize for Best Student Model Making Competition:
 - a. MVJ College of Engineering, Bengaluru
 - b. JSSAT College of Engineering, Bengaluru

● **Game Changer Awards for Best Demonstration and Exhibition:**

1. Best Demonstration:
 - a. RMC Ready Mix India - Pervious Concrete.
 - b. Fosroc India Private Limited - Polyurea System Solution for Green Roof/Podium Waterproofing.



- c. Kiran Global Chems Limited - Geopolymer Concrete & Geo-Cement.
- 2. Best Exhibition:
 - a. Silicon Valley W/P Systems
 - b. La Green
 - c. Pidilite Industries Limited

Interactive Session with the Industry Experts:

1. Prof. M.S. Shetty
2. Dr. M.U. Aswath
3. Er. Ravishankar
4. Er. M.S. Venkatesh
5. Er. N. Venkatesh

Program ended with National Anthem



Dignitaries' Speech



Felicitation to Dignitaries on the Dais

Souvenir Release



Exhibition Stalls



Product Demo by BASF



Triveni Sand & Aggregates: Demo



Demo On Pervious Concrete by RMC Ready-mix India Ltd





Presentation & Demo By Fosroc Chemicals India Ltd



Presenting a Memento to Sponsors



Organizers



Delegates



Evening Cultural Programme

ICI - LUCKNOW CENTRE

Inauguration of Indian Concrete Institute - Lucknow Centre

ICI-Lucknow Centre was inaugurated on 23rd April, 2016 in the presence of around 165 professionals including ICI members from Lucknow, Kanpur, Faizabad etc., and the key professionals from the major organisations viz., CPWD, MES, UP State Bridge Corporation, UP Rajkiya Nirman Nigam, PWD, Lucknow Metro Rail Corporation, UP Expressways Industrial Development Authority, BIS, LDA, L&T, Gammon, Shapoorji Pallonji, Eldeco, Tulsiani, Nagarjuna Construction (NCC), UP Asbestos, Visaka Industries, UltraTech RMC, Reliance Cement, Heidelberg Cement, Jaypee Cement,

etc. The programme was sponsored By Reliance Cement.

The programme started with Lamp Lighting Ceremony by the Chief Guest Maj. Gen. Ajay Wadhwa, VSM, Chief Engineer, Central Command, Lucknow, jointly with Dr. Manamohan R. Kalgil, President, ICI, Prof. Ashok K. Tiwari, Ex. VP-North, ICI, Dr. Rajeev Goel, Vice-President (North), ICI, Dr. Sudhir Misra, IIT Kanpur, Er. Ravindra Shukla, Sr. VP, Heidelberg Cement, Er. Arun Sinha, GM (CSG), Reliance Cement, Mr. Sunil Banka, Builder and Mr.G.K Bhatt, Retd. Chief Engineer, UP Irrigation.



ICI Lucknow Centre is being Unveiled by Dr. Kalgal, Maj. Gen. Ajay Wadhwa and Dr. Rajeev Goel



Installing the members with ICI Tie and ICI Lapel Pin by Dr. Rajeev Goel



Welcoming the Dignitaries with a Bouquet



Dr. Sudhir Misra, Chairman, ICI-Lucknow Centre, in his welcome address, addressed issues related to the present concrete practices and highlighted the need to have focused programmes through ICI for the various segments of the construction society.

Dr. Rajeev Goel, in his address, mentioned the needs to open a new Centre for Lucknow region, as it is gaining importance with various huge Govt. projects.

Dr. Manamohan R. Kalgal, in his presentation, highlighted the present scenario of concrete construction and briefed about

future of concrete technology. He also enlightened the audience about the manifestations of concrete like High Strength Concrete, High Performance Concrete, Fiber Reinforced Concrete, High Volume Flyash Concrete, Foam Concrete, Self Compacting Concrete, Self Curing Concrete, Self Healing Concrete, Smart Concrete, Controlled Low Strength Concrete, Pervious Concrete, Roller Compacted Concrete, Reflective Concrete, Translucent Concrete, Coloured and decorative Concretes, etc. He also expressed that the Concrete is the most sustainable construction material available to mankind.

Maj. Gen. Ajay Wadhwa, in his talk, emphasized the need of quality construction. In the Indian Army, the sites are located in

remote and far flung areas, where the quality construction is the biggest challenge for the engineers and the RMC plants are not possible in that area and hence they have to set up their own batching plants to meet the concrete requirements. He expressed his satisfaction on opening of ICI at Lucknow as there was a dire need for such initiative in this direction.



plants and has all compliances with respect to the environment, quality and safety. He also thanked Indian Concrete Institute for the inauguration of its Lucknow Centre.

Vote of thanks was delivered by Er. Ravindra Kumar Shukla, Vice-Chairman, ICI-Lucknow Centre. Mementos were presented to the Chief Guest, Dr.M.R. Kalgal and all speakers by Prof Ashok K. Tiwari.



Sponsor's Presentation was by Mr Rajeev Sehgal, Asst. Vice-President (Sales and Marketing), Reliance Cement. He described the Indian Cement Industry Scenario and talked about the fast pace of construction and its needs in India. He informed that Reliance Cement has most modern state of the art



The programme was compeered by Er. Arun Sinha, Secretary, ICI-Lucknow Centre

Dear Members,

Pl click the following link for a glowing information on concrete.

<http://www.crazyengineers.com/threads/glow-in-the-dark-cement-developed-by-researchers-to-save-electricity.88668/>

Information courtesy: Dr. R.N. Krishna (ICI-LM No: 4566)

ICI - RAIPUR CENTRE

1. Technical Lecture:

A technical lecture was organized in association with ICI-Raipur Centre and Ambuja Cements on “Controlling Cracks in Concrete” at Ambuja Knowledge Center, Raipur on 22nd April'16. The Speaker was Er.L.K.Jain, Past President, ICI. He enlightened the audience consisting of Professionals, Consultants, ICI Members and Builders of Chhattisgarh about the reasons for cracks in concrete, remedial measures and



codes and practices for mitigating the same. The programme started with introduction of speaker and topic by Sh. Anurag Sullerey, Secretary, ICI-Raipur Centre. Vote of thanks was given by Er.Uttam Chand Jain, Chairman, ICI-Raipur centre.

Members were in appreciation of the good work done by ICI-Raipur Centre in updating the members on the latest technology and practices.



2. Technical Lecture:

A technical lecture was organized in association with ICI-Raipur Centre and Ambuja Cements on “Advanced Formwork Technology” at Ambuja Knowledge Center, Raipur on 13th May 2016. The Speaker was Mr.Deepak Kulkarni, Director (South East Asia) Geoplast, Italy, which is the only pioneering company in the world, manufacturing ABS Formworks for construction works. He informed the audience consisting of Professionals, Consultants, ICI Members and Builders of Chhattisgarh that ABS material has highest load carrying capacity and maximum usage besides producing a fine finish with economy, convenience and accuracy.



Mr.Kulkarni informed that this technology requires minimum labour and any unskilled labour can install the formwork accurately. He demonstrated this through a sample of shuttering material. The formwork can be used for 150 times which is very high as compared to other formworks, he added. The Geoplast, Italy also introduced many new products apart from shuttering and showed a film on Low cost Housing with Geoplast materials, he mentioned.

The program started with introduction of speaker and topic by Sh. Anurag Sullerey, Secretary ICI-Raipur Centre. Vote of thanks was given by Er. Uttam Chand Jain, Chairman, ICI-Raipur Centre.



<p>31. For concrete workability in IS:456-2000, the suggested parameters are a) Slump from Slump Cone b) Flow from Flow Table c) Compaction factor d) All of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>32. Where chloride is encountered along with sulphates in soil or ground water, IS:456-2000 permits use of Portland Pozzolana Cement and Portland Slag Cement a) Yes b) No c) Engineer-in-charge's choice d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>33. When aggregate has potential for alkali-aggregate reaction potential, IS:456-2000 suggests use of impermeable membranes a) Yes b) No c) Engineer-in-charge's choice d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>34. When concrete is protected against weather or aggressive conditions, the concrete shall be at least M 20 Grade as per IS:456-2000 for a) Plain Concrete b) Reinforced Concrete c) Both of choices a and b d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>35. When concrete is coastal environment, the concrete shall be at least M 20 Grade as per IS:456-2000 for a) Plain Concrete b) Reinforced Concrete c) Both of choices a and b d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>36. The concrete grade for which use of 'Nominal mix concrete' as per IS:456-2000 can be used is a) M20 b) M20 and below c) Both of choices a and b d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>37. In specifying a particular grade of concrete as per IS:456-2000, it is necessary to specify the maximum temperature at the time of placing. a) No b) Yes c) Engineer-in-charge's choice d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>38. As per IS:456-2000, is it necessary to get the approval of mix design. a) No b) Yes c) Engineer-in-charge's choice d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>39. As per IS:456-2000, the total number of test strength of samples required for calculation of standard deviation shall be. a) More than 30 b) 30 c) Engineer-in-charge's choice d) a very large number</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>

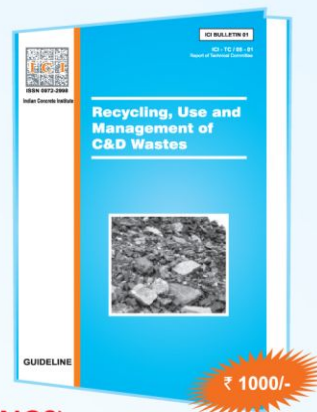
<p>49. If the strength test results of concrete samples are not satisfying the provisions of the IS:456-2000, then</p> <p>a) structures should be demolished b) Core sampling and testing of cores is done c) Load test is done d) Both of b and c options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>50. Which of following is not a Bogue's compound of Portland cement</p> <p>a) Calcium hydroxide b) Calcium chloride c) Calcium sulphate d) All of options a, b, and c</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>51. Blended cement concrete is superior to OPC because of</p> <p>a) pozzolanic reactions b) Pore refinement c) Reduced permeability d) All of options a, b, and c</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>52. In making of self compacting concrete, addition of superplasticiser is essential</p> <p>a) No b) Yes c) Engineer-in-charge's choice d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>53. In testing of self compacting concrete, workability measurement by which of following is necessary</p> <p>a) Flow test b) V-funnel test c) J-ring d) All of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>54. In geopolymer concrete, polymer formed is</p> <p>a) Organic polymer b) inorganic polymer c) both a and b d) All of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>55. In steel fibre reinforced concrete, expected strength changes are:</p> <p>a) Increase in compressive strength b) Increase in flexural strength c) Increase in ductility d) All of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>56. The uniqueness of stainless steel reinforcement bars is:</p> <p>a) Non-magnetic nature b) Increased corrosion resistance c) both a and b d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>57. The carbon footprint of concrete can be quantified its</p> <p>a) Embodied Energy b) Embodied Carbon Di Oxide Emission c) both a and b d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>58. The minimum compressive strength of facing brick in a load bearing masonry is</p> <p>a) 3.5 MPa b) 5.0 MPa c) 7.0 MPa d) None of the options</p>	<p>a b c d</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>

ICI PUBLICATIONS FOR SALE

GUIDELINES ON 'RECYCLING, USE AND MANAGEMENT OF C&D WASTES'

The contents are:

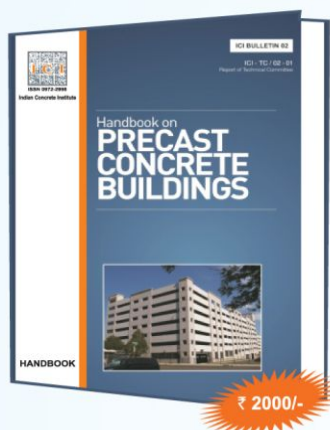
1. Introduction
2. Amount & Composition of C&D Wastes in India
3. Policy, Guidelines and Rules
4. Recycling of C&D Wastes
5. Demolition and Recycling Equipments
6. Innovative Steps to Reduce Wastes
7. Use of Recycled Aggregate
8. Uses in Road Sector
9. Recycling and Use of Other Waste Materials
10. Promotional and Confidence - Building Measures



HANDBOOK ON 'PRECAST CONCRETE BUILDINGS'

The contents are:

1. Precast Concrete in Buildings and Urban Infrastructure
2. Precast Concrete Building Systems – An Overview
3. Foundation and Underground Structures
4. Structural Analysis and Design
5. Prestressed Precast Concrete
6. Seismic Design of Precast Structures
7. Materials and Properties
8. Materials and Products
9. Joints and Connections in Precast Buildings
10. Production, Handling and Erection of Precast Elements
11. Quality Control and Assurance in Precast Products
12. Contracts and Taxation
13. Information Technology in Precast Construction
14. Case Study on Precast Building Using Precast Hollow Core Slab System
15. Case Study on Precast Parking Garage (Multi Level Vehicular Parking)



Bank Details : Deposit the amount in any of the local ICICI bank branch into ICI savings Bank A/c. No.000101208599 (NEFT/RTGS CODE: ICIC0000001) in the name of "Indian Concrete Institute" or send us Cheque or DD in favour of "Indian Concrete Institute", payable at Chennai. (Cheques are subject to realization)

ICI members are eligible for 20% discount on furnishing Membership Number. Postage extra.

Please write to Head Quarters, for your requirements.

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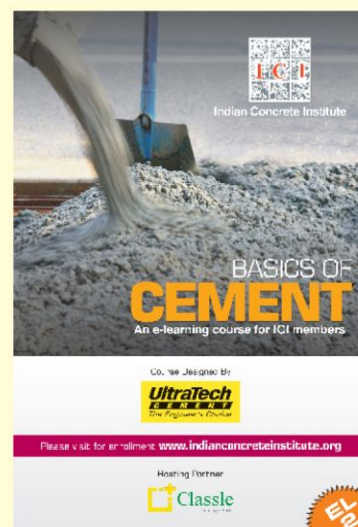
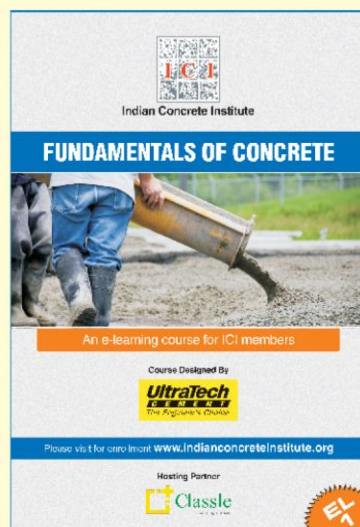
Click on e-learning menu >>> login using your registered e-mail id as User Name and Mobile Number as password.

Select "Go to Course" → "Modules" → "Select Name of the Course" → "Pretest" and thereafter Chapters. At the end of all chapters you have to undergo the Post Test.

On successful completion of the Course, the participant will be awarded with Certificate on the merit basis.

Several members have already registered and some of them have successfully completed.

Wish you all happy e-learning !!!



Email: ici4@airtelmail.in
Phone: 044-24912602

R. Radhakrishnan
Secretary General



MES COLLEGE OF ENGINEERING - KUTTIPURAM

ICI - Students Chapter Inauguration:

As a milestone in the history of Civil Engineering Department of MESCE, Kerala, the inaugural function of ICI Students Chapter was held on 28th January 2016 in the college auditorium. Dr. Manamohan R.Kalgal, President, ICI, inaugurated the Chapter in the presence of Er. K.Jayasankar, Vice-President (South), ICI, Er. Sajith Baskar, Secretary, ICI-Calicut Centre and Er. M.A. Joseph, Chairman, ICI-Kochi Centre.

The function was inaugurated by Prof. P.O.J Lebba, Secretary, MESCE, along with Dr. K.P. Mohammed, Director, MESCE, Dr. V.H. Abdul Salam, Principal, MESCE, and Prof. P.K. Abdul Latheef, HOD, Civil Engineering Department, MESCE.



Inaugural Note by Dr. Manamohan R.Kalgal

Felicitation by Er. M. A. Joseph



Prof. P.K. Abdul Latheef welcoming the gathering



Inaugural Address by Prof. P.O.J Lebba



Presidential Note by Dr. V.H. Abdul Salam



Keynote Address by Dr. K.P. Mohammed



Er. K.Jayasankar introducing ICI



Vote of Thanks by Student Representative, Aathira M.T.

Students had an inspiring and informative session by Dr. Manamohan R. Kalgal on “Scope of Civil Engineering in Modern Era” which was equally important to students belonging to all semesters. Students had an interactive session, and got clarified their doubts on job opportunities available for civil engineers in modern world. Students were impressed with information about the various types of constructions activities by the civil engineers in the world.



To mark the ICI-Students Chapter inauguration, a quiz competition was conducted on topic "GENERAL WORLD" with participation of 120 groups from all Departments and 8 groups among those, qualified for the finals and were tested again with brain storming questions by the Quiz Master, Mr. Tariq Ahamed, Asst. Prof. & Placement Officer.



The best three teams were given cash price worth 3000 Rupees by the Principal in presence of Prof. P.K. Abdul Latheef.

The inaugural function of ICI-Students Chapter became a memorable function with participation of all students of Civil engineering department and cooperation of all teaching and non-teaching faculties of the Department.

NEW HORIZON COLLEGE OF ENGINEERING, BENGALURU

ICI-Students Chapter Inauguration:



The Department of Civil Engineering, New Horizon College of Engineering organized ICI-Students Chapter inaugural function on 10th February 2016 in the college campus. Dr. Manamohan R Kalgal, President, ICI, Dr. Aswath, M.U., Chairman, ICI-Bengaluru Centre and Dr. Manjunatha, Principal, NHCE, Dr. Niranjan P.S., HOD, Civil, inaugurated the function by lighting the lamp.

Dr. Niranjan P.S., welcomed all the esteemed Dignitaries and gathering. Dr. Manamohan R. Kalgal gave an insight about advancements in Technology in the field of Pre-Stressed Concrete and implementation of the same in structures. He emphasized the need of the engineers and other stake-holders to know about the different innovative materials,

equipments and accessories, their applications in the field of different construction activities.

Dr. Aswath, M.U., spoke about the need to improve quality at construction sites and highlighted different approaches to be followed for maintaining necessary quality controls in construction sites. He also spoke about how students should equip themselves with the necessary know-how of quality control as the construction industry today is expecting professionals with a knowledge of global standards.



Membership certificate were issued to students by the Dignitaries and Principal, NHCE. Students were encouraged to participate in all the activities of ICI- Students Chapter.

COLLEGE OF ENGINEERING TRIVANDRUM - THIRUVANATHAPURAM

PANTHEON 2016:

PANTHEON 2016 is a national level technical festival organized by ICI-CET Students chapter in collaboration with ICI-Thiruvananthapuram Centre on March 18th 2016. This Fest provided an opportunity for the civil engineering students across the nation to showcase their aptitude and skills in their field. The Fest consisted mainly of the following five events and an exhibition.

- Best Engineer
- Tech Hunt
- Paper Presentation
- Situation Management
- Workshops
 - o Admixtures in Mix Design for Concrete-conducted by BASF
 - o Analysis and Design of Multistoried Structures using STAAD Pro-Conducted by DCS
- Exhibition by ICI members

a. The Best Engineer:

The Best Engineer event was a single person event which aimed at testing the skills of the participant in many aspects. About 65 students participated for this event, of which, four of them emerged as the winners. The coordinators for this event were Ajay.S.R and Sreejith K.V from Eighth Semester.



The event comprised of five rounds. In the first round, a written test was conducted to test the basic Civil engineering knowledge and aptitude of the contestants.

The top eight performers of this round advanced to the next round, which involved a group discussion for 20 minutes. Prof. Abhilash George from the Department of Business Administration judged the participants of the group discussion.

The third round was a reconnaissance round in which the participants were asked to estimate distances, areas and volumes by visual judgment. The students were given eight tasks involving visual judgment of various quantities.

The cumulative score of the eight participants in the second and third round was compared and the top four was allowed to participate in the next round, which involved an interaction with a few of our teachers. The juries for this round were Dr.R.Padmakumar, Dr. Beena K.P and Dr. Jaya V. For each participant, the Juries gave some hypothetical situations and they were asked to give a solution to those situations. The ability of the participants to grasp the idea of the situation that is being given to them, their technical know-how and the presentation skills were judged in this round.



The final round was a quiz round. The quizmaster for this round was Ashad Surendranath (S8, Applied Electronics) and Dominic Joseph (S8, Mechanical Engineering) from the CET Quiz Club. The general knowledge of the participants was tested in this round.

The Cumulative score of all the rounds excluding the first round was compared and the winner was decided. Bibin Benny from TKM College of Engineering bagged the first prize. He was offered a cash prize of Rs 10000 and a certificate. The other three finalists were offered a cash prize of Rs 1000 and a certificate. The other finalists were Arjun, TKM College of Engineering, Prathyush, SOE-CUSAT and Deepthi from Government Engineering College Barton Hill.

b. Survey Hunt:

Survey Hunt was a survey based treasure hunt which helps to introduce survey techniques in real life. During the course of study, surveying is introduced to students merely as an art of measuring distances, computation of quantities and recording them. This event opened up a new approach towards surveying as a language which bridges the gap between the problem and the solution. Thus surveying was introduced to students as the one and only technique which leads them to the treasure. As Civil Engineers they will be able to understand the application and importance of various surveying equipment in its true sense. This event amazed the participants by making them realize the real idea of surveying and experience the art of surveying.

The event had registration of around 20 groups of 5 students in each, from colleges across the Nation. Perkins were held in classes CE1 303 and CE1 305. The event consisted of three rounds. But different from the usual, prelims was a puzzle solving round in which each group were given a puzzle, based on leveling. The top five groups who

completed the puzzle with ease, perfection and speed were promoted to next rounds. At this stage, participants were allowed to choose their piece of clue to start with from the lot. The real hunt began at this very point. This round consisted of a total of five levels and all the groups had the same points such as Architecture Parking lot, in front of Cooperative Society, play ground, in front of CE5 block and in front of library to go through but in different sequential order. The groups were supposed to find the solution for the problem given to them using the instruments provided at each point which lead them to their next destination. The clues which they collected after completion of each level together lead them to their final destination. At the final round, three groups which reached first, did theodolite surveying to locate the final treasure point. The questions were based on basic survey principles and their applications using various survey instruments such as Dumpy Level, Theodolite, Plane Table etc. The procedure of problem solving and the numerical answers obtained were together considered for final judgment. The participants had a wonderful experience by brushing up all that they have learned as part of surveying under a single event.

A group of students from Saintgits college of Engineering, Kottayam, won the treasure and the other finalists included students from Government Engineering College Barton hill and Saintgits College of Engineering, Kottayam. The winners were given Rs.10000/- and the finalists were given Rs.1500/- each.

Event Coordinators: Malavika S & Arjun Nikhil V L



c. Paper Presentation:

Paper Presentation was one of the main events conducted as a part of the Technical Fest, PANTHEON 2016. Abstracts were invited from students of various colleges, days before the event. The response was overwhelming from a number of colleges all over Kerala. More than 20 abstracts were received, out of which 14 were shortlisted for the competition. The event consisted of 2 rounds. In the preliminary round, the 14 shortlisted teams were given 5 minutes each to present their abstract. From this, 5 teams were selected for the final round. In the final round they were given 15 minutes each for doing a powerpoint presentation which was followed by a discussion with juries and audience. They were also asked to submit a detailed report of their presentation to the Juries. Dr. Ajitha B Bhaskar and Dr. Shibu A, from the faculty of College of Engineering Trivandrum, were the Juries for both prelims and finals.

Harikrishnan G.P. from Government Engineering College Barton Hill, who presented the topic "Programming in VBA AutoCad", bagged the first position winning a cash prize of Rs. 5000. Niveditha Raj from Mar Baselios College of Engineering and Technology Nalanchira, whose topic was "Application of Nanotechnology in Civil Engineering", won the second position with a cash prize of Rs. 3000. The team of Reshma K. Roy and Saumya R. Rebeiro from Mar Baselios College of Engineering and Technology Nalanchira won the third position with a cash prize of Rs. 2000, presenting the topic "Floating Solar cum Agricultural pontoons for Sustainable Development in Kerala".



d. Situation Management:

The Situation Management event consisted of 3 rounds. A team consisting of 2 can participate in the event. First a prelims, to check the technical knowledge of the student was conducted. Prelims include basic civil questions and a crossword. 53 teams from various colleges participated in the prelims. 8 teams from the prelims were selected to the next round. In the second round a situation during a flood was given and the measures to be taken for the evacuation of the people near the dam site are to be determined. After that there was an interactive session with a college faculty. From the second round 4 teams were selected for the third round. The third and final round consisted of 4 civil engineering failure structures. The participants have to identify the reasons for the failure as well as the measures that would have been taken before the failure. The participants have to present their ideas before the Juries. The final winner of the Situation Management is Ananthajith B and Alin A of TKM College.



e. Admixture Mix Design Workshop:

The Admixture Mix Design Workshop conducted as part of PANTHEON 2016 provided hands on experience for the participants. It was lead by BASF, one of the worlds' largest chemical company. About 40 students attended the Workshop. The presentation of the topic by the company officials was very beneficial. Different types of admixtures and the modified properties of concrete with admixtures were explained in



detail. Properties and advantages of using self-compacting concrete and precast concrete structures were also dealt with. A concrete mix was prepared by using admixture and the variation in the properties of concrete was well demonstrated by performing different tests in the concrete lab.



f. Model Expo:

As a part of PANTHEON 2016 a Model Expo was conducted. The Expo was aimed to encourage and appreciate the talents of Civil Engineering students of CET. There were a total of 28 exhibits for the event. The Models were exhibited in three classes. The Expo was open for public from 10 am to 4 pm. Exhibited models were judged by Dr. M.S. Girish and Sri. C. Mohandas. Judging criterions were Innovation introduced in the project, Feasibility of the Project, Model Aesthetics and Presentation of the project. Model on Carbon Capture and Sequestration grabbed the first prize. The model showed how effectively Carbon-Di-oxide that is given out into the atmosphere can be captured using technology and stored separately in exhausted aquifers. The team put forward this idea as one of the most innovative engineering solution presently available for effectively reducing

Global Warming. Expo was successful in bringing up ideas for young talents.



Carbon capture and Sequestration (First Prize)



Venice Flood Barrier (Second Prize)



Rolling Bridge (Third Prize)

g. Staad Workshop:

The STAAD Workshop conducted as part of PANTHEON 2016 was very helpful and inspiring for the participants. It was lead by experienced faculties of Digital Civil Structures(DCS), one of the leading STAAD teaching institute. Even though the demand for the seats to attend workshop was very high, due to limited facilities only 51 students were given chance to attend it on the first come first serve basis. The participants got a firsthand experience on modeling, designing and analysis of a multistoried building. The faculties and trainers of DCS were very helpful to the participants and kept special attention to clear the doubts at any stage of the Workshop.



Closing Ceremony:

Closing ceremony of PANTHEON 2016 was conducted in a grand way at the CGPU Hall. The Chief Guest of the closing ceremony was Sri. Mir Mohammed Ali, IAS, Project Director, Kerala Land Information Mission. ICI-Thiruvananthapuram Centre Chairman, Sri. Madhumohan and Secretary Sri. Anwar Hussain were also present in the occasion.

The closing ceremony started with a welcome speech by Dr. Mini Soman. Dr. J. David, Principal, CET gave the Presidential Address. Sri. Mir Mohammed Ali and Dr. Jayaraj, HOD, Civil Department, addressed the audience. Er. Madhumohan, Er. Anwar Hussain, Prof. Biju V and Mr. Nikhil RV also spoke to the audience. The prize distributions of various events were also given during the closing ceremony. Finally, vote of thanks was given by Malavika Suresh.



JAIN UNIVERSITY, SCHOOL OF ENGINEERING AND TECHNOLOGY - BENGALURU

National Symposium and Workshop:

ICI-Students Chapter of Department of Civil Engineering, SET, Jain University organized the National Symposium and Workshop on Low Carbon Footprint Cementitious Matrix Composites on 5th April 2016.

Dr. Shashishankar A, Professor and Head, Civil Engineering Department was the Convenor. The Coordinators were Er. C.P. Ramesh, Associate Professor, SET-JU, Er. H.R. Pradeep, Assistant Professor, SET-JU, and Er. J. Guruswamy, Senior Lecturer, PVP Polytechnic College.

Inauguration of the symposium took place by lighting the lamp by the Chief Guest and other Dignitaries on the dais. More than 100

participants including, Invited Speakers, Faculty Members and Students of both UG & PG from various colleges and Research Scholars were present.

The welcome speech was delivered by Dr. Shashishankar A, who spoke on the theme.





Dr. N. P. Rajamane, Head CACR, SRM University, Chennai was the Keynote Speaker. The presentation was based on various features of Geopolymer Concrete Construction, Advantages, Applications and Principles related to Geopolymer Concrete. Dr. N. P. Rajamane was felicitated by Er. Y.A. Narayanaswamy, Hon. MLA of Hebbal Constituency.

A technical handout on Geopolymer Composites comprising of selected technical papers was also released during the Symposium.

of Late Laurie Baker was on display, conducted by COSTFORD, Thiruvananthapuram.



Er. Y. A. Narayanaswamy launched the Laurie Baker Centenary Celebrations by pressing one soil stabilized block. The demonstration of soil stabilized blocks by Mrinmayee Gramavidya was organized. He also stressed the requirement of utilisation of this technology for rural development. The exhibition of works

Following were the invited speakers. Their presentations were on various topics and their research experiences.

Er. Ajit Sabnis, National President, ACCE(I) spoke about the industry academic Institution interaction requirements.

Dr. M. U. Aswath, Chairman, ICI-Bengaluru Centre, Professor and Head, Department of Civil, BIT and Er. Kaushik Hajra, Spoke about the ICI-Bengaluru Centre involvement in bringing awareness to people about the latest materials and technologies. Dr. M.U. Aswath handed over a memento to SET-JU as supporting organisation and also handed over ICI Student Membership Certificates.





Dr. R. V. Ranganath, Professor, BMSCE, rendered a lucid presentation of his team's research work on geopolymer composites, and its utilization as replacement for normal concrete was also discussed in the presentations.

Dr. B. C. Udayashankar, Associate Professor, RVCE, presented on "Utilisation of Industrial Waste Materials in CLSM and Applications in the Construction Industry".

Dr. Radhakrishna, Associate Professor, RVCE, presented on "Utilization of Fly Ash based Geopolymer for Manufacture of Geopolymer Masonry Blocks, their properties and their effective utilisation as replacement to Standard Burnt Bricks".

The following doyens of the sustainable construction practice were felicitated.

Dr. Y. R. Nagaraj, Professor Rtd, IIT(M),
Visiting Professor, SET-JU.

Dr. B. V. Ravishankar, Principal, BMSCE
Evening College

Dr. K. B. Prakash, Principal, GCE VTU,
Haveri

Dr. S.A.K Zai, Associate Professor, UVCE

Dr. L. Manjesh, Associate Professor, UVCE

Dr. P.S. Nagaraj, Associate Professor, UVCE

Dr. M. Inayathulla, Associate Professor,
UVCE

Mr. Suresh, Leading Structural Engineer

Er. Prabhu IES, Chief Engineer, Diamond
Quadrilateral Project Indian Railways, Hubli





Awards presentation:

RVCE was awarded the Best Institution Award for continuous research in the field of topic of the National Symposium and Workshop on Low Carbon Footprint Cementitious Matrix Composites.

Dr. Radhakrishna, Associate Professor, RVCE was adjudged by the jury as the Best Academician and Researcher 2016, promoting Geopolymer Composites.

The team from Mrinmayee was also recognized for their work in reducing carbon footprint by their technology of stabilized blocks and were felicitated.

Laurie Baker Centenary Award was conferred on Dr. Yogananda M.R. of Mrinmayee for Outstanding Contribution to Sustainable Construction.

All the sponsors were recognized and thanked individually by the Organizing Committee.

The following papers presented by PG Student & Research Scholars won the prize.

Two papers from RVCE got 1st and 2nd place in the technical paper presentation for research scholars.

The 3rd place was secured by BIT.

I Prize- Cash Award Rs.3500

Col. Vinod Sasalatti, Staff Officer I, Design HQ Chief Engineer Airforce, Bengaluru, Research Scholar RVCE.

II Prize- Cash Award Rs.2500

Er Venugopal K, HOD Civil Engineering, SEA College of Engineering and Technology, Research Scholar - JAIN UNIVERSITY

III Prize- Cash Award Rs.2000

Er. H Anantharam, Associate Professor, Research Scholar, Dr AIT, Nagarabhavi, Bengaluru,

Jury Appreciation - Cash Award Rs.1000

Rahul Das Biswas M.Tech Structures, Student BIT, Bengaluru

Papers Presented by UG students:-

I Prize- Cash Award Rs.2000 -

Vishal Gadgihalli, 4th Sem, SET - JU

II Prize- Cash Award Rs.1500 -

Anagha, 6th Sem, SET - JU

III Prize- Cash Award Rs.1000 -

Sunil Kumar K, 6th Sem, SET - JU

After the prize distribution, vote of thanks was delivered by Dr. Shashishankar.

EAST POINT COLLEGE OF ENGINEERING AND TECHNOLOGY - BENGALURU

ICI-Students Chapter Inauguration:

The Department of Civil Engineering, East Point College of Engineering and Technology organized ICI-Students Chapter inaugural function on 16th March 2016 in the college campus. Dr. Aswath M.U., Chairman, ICI-BENC, Mr. Kaushik Hajra, Secretary, ICI-BENC and Dr.Satish B.M., Principal, EPCET, Dr. Ramesh V., HOD, Civil inaugurated the function by lighting the lamp. Inaugural Address was given by Dr. Aswath

M.U. He spoke about the Future of Civil Engineering and highlighted the life of engineers in the Past, Present and Future. He also spoke on how students should equip themselves with latest technology in civil engineering. He stressed that the construction industry is expecting professionals matching global standards. Mr. Kaushik Hajra briefed about ICI, its activities and also spoke about Advances in Concrete and Construction

Industry. Membership Certificates were issued to the Students by the Dignitaries and Principal.

Finally, vote of thanks was delivered by Prof. Geena George.



INSTITUTE OF AERONAUTICAL ENGINEERING (IARE), DUNDIGAL, HYDERABAD

ICI-Students Chapter Inauguration:



Dr. V. Bhikshma lighting the lamp

Institute of Aeronautical Engineering (IARE), Dundigal, Hyderabad, has enrolled as an Organizational Life Member of Indian Concrete Institute (ICI) and from the Department of Civil Engineering, 44 Students have registered as student members of ICI. The inaugural function took place in the college campus on 16th April, 2016.

Dignitaries on the Dais were Dr. V. Bhikshma, Chairman, ICI-Hyderabad Centre and Professor, Dr. D. Rupesh Kumar, Joint Secretary, ICI-Hyderabad Centre and Assistant Professor, Department of Civil Engineering, UCOE, Osmania University, and Dr. J.S.R. Prasad, Head, Department of Civil Engineering, IARE.

Dr. V. Bhikshma gave a brief overview of the mission and activities of ICI.



Dr. Akshay Naidu, Professor and Professional Societies Coordinator, Department of Civil Engineering, IARE, spoke on the inspiration behind and objectives of opening a Students Chapter of ICI at IARE.



Dr. V. Bhikshma officially handing over the Organizational Life Membership Certificate to Sri B. Rajeshwar Rao, Executive Director and Treasurer, Institute of Aeronautical Engineering and the Certificates to the Student members.

ICI-Students Chapter IARE President, A. Karthik Reddy presenting the Vision,



Mission and Year Plan of the Chapter

The following were the two presentations made as part of the Seminar

1. A talk on “Geopolymer Concrete” By Dr. V. Bhikshma.
2. A talk on “Bacterial Concrete” By Dr. D. Rupesh Kumar.



COLLEGE OF ENGINEERING THALASSERY - KERALA

ICI-Students Chapter Inauguration:

The Department of Civil Engineering, College of Engineering Thalassery inaugurated ICI-Students Chapter on 19th April 2016 in the college campus. Mr. Eby David, HOD, Civil welcomed the Dignitaries and the gathering. The Principal of College of Engineering Thalassery, Dr. Sajeev V. delivered the Presidential address.

Er. Jeesh Venmarath, Chairman, ICI - Calicut Centre inaugurated the Chapter by lighting the lamp. He addressed the gathering of young minds and encouraged them to be a part of ICI and get maximum benefit of it. Er Sajith Bhasker, Secretary, ICI - Calicut Centre briefed about ICI and the benefits of becoming Student Member. He also described about the new initiatives taken by ICI for the Students Chapter. Membership Certificates were

handed over by Er. Jeesh Venmarath to Principal and the Students Coordinator. Er. Shaju Kollambalath, Joint Secretary, ICI-Calicut Centre and Dr. Rajeesh, HOD, Electronics and Communication Department gave felicitation speech. Session concluded with vote of thanks by Ms. Nivya T.K., Assistant Professor, Civil.

The inaugural session was followed by a technical talk on concepts of mix design by Mr. Mathew Sebastian, Territory Manager, Technical Services, UltraTech Cement, kannur. An executive core committee was also formed for the COET ICI-Students Chapter. Akshay B.H. of S4 Civil was elected as the President and Angitha K Vishwanath was elected as the Secretary of the COET ICI-Students Chapter.





VIT UNIVERSITY - VELLORE

ICI-Students Chapter Inauguration:



Students Chapter of Indian Concrete Institute was inaugurated at VIT University, Vellore Campus on 20th April 2016.



Dr. S. K. Sekar, Dean SCALE welcomed the august gathering. Gaurav Verma, ICI-Student Member introduced Er. K. Jayasankar, Vice-President (South), ICI, to the audience. In his speech, Er. K. Jayasankar briefed about the initiatives of ICI on e-learning Portal, Job Portal, Student FEST, and stressed that the students chapter should gear up to reap the full benefits from all these.

Dr. G. Viswanathan, Chancellor, VIT University, Vellore gave the Presidential Address. He stressed the importance of producing quality engineers and Institutes like ICI should help in shaping them. He also emphasised the need to ensure the durability of modern day concrete structures and urged the research community to take cues from ancient structures that is still surviving the onslaught of time.

Guest of Honour, Er. R. Radhakrishnan, Secretary General, ICI was introduced by the student member, Shubham Sarawagi. He elaborated on the activities and objectives of ICI to the budding engineers and the benefits of being a student member of ICI.





Chief Guest, Dr. Manamohan R. Kalgal, President, ICI, was introduced by Siddhant

Chopra. In his talk, Dr. Manamohan R. Kalgal corroborated Chancellor's views on durability further and spoke on the advancement in materials technology to achieve durability. Dr. Kalgal later gave a technical presentation on 'Concrete for today and tomorrow'.

Dr. S. Shantha Kumar, HoD gave vote of thanks.

The inaugural function was followed by tree plantation by the Dignitaries.

Answers for the Queries on IS: 456-2000 on Materials

Que	Ans	Que	Ans	Que	Ans	Que	Ans	Que	Ans
[1]	(c)	[2]	(d)	[3]	(d)	[4]	(a)	[5]	(d)
[6]	(d)	[7]	(a)	[8]	(c)	[9]	(d)	[10]	(a)
[11]	(a)	[12]	(b)	[13]	(a)	[14]	(b)	[15]	(c)
[16]	(c)	[17]	(a)	[18]	(c)	[19]	(b)	[20]	(b)
[21]	(d)	[22]	(b)	[23]	(b)	[24]	(a)	[25]	(b)
[26]	(b)	[27]	(b)	[28]	(a)	[29]	(a)	[30]	(b)
[31]	(d)	[32]	(a)	[33]	(a)	[34]	(b)	[35]	(a)
[36]	(b)	[37]	(b)	[38]	(a)	[39]	(b)	[40]	(d)
[41]	(c)	[42]	(a)	[43]	(b)	[44]	(a)	[45]	(a)
[46]	(d)	[47]	(d)	[48]	(b)	[49]	(b)	[50]	(d)
[51]	(d)	[52]	(b)	[53]	(d)	[54]	(b)	[55]	(c)
[56]	(a)	[57]	(c)	[58]	(b)	[59]	(a)	[60]	(a)
[61]	(a)	[62]	(a)	[63]	(a)	[64]	(a)	[65]	(b)
[66]	(b)	[67]	(d)	[68]	(a)	[69]	(c)	[70]	(a)



Sl.No.	M.No	Centre		Name	Place
A. Individual Life Members					
1	11655	Ahmedabad	Er	Vekariya Kamlesh L	Rajkot
2	11669		Er	Vishal	Surat
3	11654	Bengaluru	Er	Satish S. Mokhashi	Bengaluru
4	11666		Er	Ganesh Vasudev	Bengaluru
5	11656	Coimbatore	Dr	Maruthachalam D	Coimbatore
6	11679	Chennai	Er	Suganya S	Chennai
7	11657	Kochi	Er	Nidhin B Parappattu	Kothamangalam
8	11658		Er	Nivin Philip	Adoor
9	11659		Er	Paul Shaji	Kothamangalam
10	11660		Er	Boby Jacob	Ernakulam
11	11661		Dr	Elson John	Kochi
12	11662		Dr	Laju Kottalil	Ernakulam
13	11663		Er	Sachin Paul	Kothamangalam
14	11647	Lucknow	Er	Pankaj Srivastava	Kanpur
15	11648		Mr	Vijai Prakash Gupta	Kanpur
16	11649		Er	Akshay Mittal	Lucknow
17	11650		Er	Sanjai Kumar Jain	Kanpur
18	11651		Er	Manish Kumar Agarwal	Lucknow
19	11652		Er	Naresh Khandelwal	Kanpur
20	11664		Er	Rohit Kumar	Lucknow
21	11672		Er	Manish Jain	Lucknow
22	11673		Er	Sandeep Singh	Lucknow
23	11674		Er	Saurabh Kumar Singh	Lucknow
24	11675		Er	Amit Mishra	Lucknow
25	11676		Er	Shaminder Singh	Ambala
26	11677		Er	Abhimanyu Gaur	Sirhind
27	11667	Mumbai	Er	Tavase Prabhakar P	Mumbai
28	11668		Er	Jain Chirag Dilipkumar	Mumbai
29	11670	Raipur	Er	Arun Bhawe	Raipur
30	11678		Er	Vinayak Rao Bhure	Raipur
31	11665	Visakhapatnam	Er	D V S Naga Krishna	Guntur
B. Organizational Life Members					
32	11653	Bengaluru		Nitte Meenakshi Institute of Technology	Bengaluru
33	11671	Hyderabad		Shri Vishnu Engineering College for Women	Bhimavaram

ICI Workshop on RECYCLING, USE & MANAGEMENT OF C&D WASTES

Date: June 21st, 2016
Venue: ICSR Auditorium, IIT Madras, Chennai

ORGANISED BY



Indian Concrete Institute
(Chennai Centre)

IN ASSOCIATION WITH



Corporation
of Chennai



Indian Institute of
Technology
Madras - Chennai



Anna University



Confederation of
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Pls visit our website www.indianconcreteinstitute.org for more info on this.

