



G H Patel College of Engineering & Technology, Vallabh Vidyanagar

Department of Civil Engineering

Report on

Two days seminar on “Recent Advances in Civil Engineering (RACE 2020)”

CVM University Vallabh Vidyanagar affiliated, G. H. Patel College of Engineering & Technology, Department of Civil Engineering, GCET organized two days seminar on “Recent Advances in Civil engineering (RACE- 2020)” on 4th and 5th March, 2020. The program was organized under ISTE and IGBC student’s chapter and sponsored by our parent body CVM. This program is the second series of our previous program RACE 2019. Total 120 students and 11 faculty members participated in the seminar.

The main aim of organizing the program was to provide a platform for our students to interact with distinguished researchers, eminent professionals from industries such as field engineers, consultancy agencies, construction companies, water resources and irrigation departments, and other agencies to share their knowledge and experience. The seminar consists of expert lectures on related themes by eminent personalities in major fields of Civil Engineering including Geotechnical Engineering, Structural engineering, Environmental engineering, Transportation engineering, and Water Resource engineering etc.

The two days seminar was inaugurated by Dr. S. G. Patel, Honorable Secretary, Charutar Vidya Mandal, Mr. Ketan Patel, Chief Guest, Joint General Manager, L & T Chiyoda, Baroda, Dr. Himanshu Soni, Principal, GCET, Dr. Khadeeja Priyan, Head, Civil Engineering Department, GCET, Convener of the seminar and Faculty coordinators of the seminar, Dr. Snehal Popli and Prof. Ratansharan Panchal.



Inauguration started with a prayer which was followed by the introduction of guests by Dr. Khadeeja Priyan. The introduction of college and welcome speech was given by Dr. Himanshu Soni. Dr. Snehal Popli has given the brief introduction about the seminar and all the experts. The inaugural address was given by Mr. Ketan Patel. He motivated the students and congratulated the department for arranging this kind of program for the students. Dr. S. G. Patel encouraged the gathering and gave presidential remarks. At last, Prof. Ratansharan Panchal delivered vote of thanks. The seminar was highly beneficial to all the participants. Participants cleared their doubts / queries by interacting with the respective experts. It was a fruitful seminar for all the participants.

Day 1: Application of 'Precast concrete Building' in Oil & Gas Industry

Mr. Ketan V. Patel, Joint General Manager, L&T Chiyoda, Baroda



Mr. Ketan Patel delivered a lecture on Precast Concrete Building: A Case Study Overview. He presented the key requirements on steel modular fabrication. He started his lecture with basic definition of precast concrete, where it is prepared and various stages of preparing it such as prestressing, covering, curing, storage, lifting, transportation, erection and service load. He explained to us about the various utilities used in building and what care should be taken while planning various components of the building in precast building construction.

Mr. Patel highlighted about the key challenges faced during the construction phase such as in transportations, joint filling, etc. He discussed the Engineering Design Basics (EDB) and finally discussed a case study of Substation Building built by L&T.

Mr. Ketan Patel provided detailed insight into the precast concrete building in oil and gas industry. Mr. Ketan concluded his lecture by discussing advanced methods and real problems faced by them at a particular site.

Day 1: Design Aspects of Sardar Sarovar Dam

Shri. A V Gajjar, Former Executive Engineer, Sardar Sarovar Dam Project (Narmada)



Shri. A.V. Gajjar delivered a very interesting and informative session on the Design aspects of Sardar Sarovar Dam. First of all, he discussed about the general information of Sardar Sraovar Dam. Mr. Gajjar discussed the history behind the construction of dam. Sardar Sarovar Project is constructed on the river Narmada which originates from Amarkontak, Madhya Pradesh and ends in Gulf of Khambhat, Gujarat trailing a length of 1312 km. It is the fifth largest dam in the country, comprising 30 Major Dams, 135 Medium Dams and about 3000 Minor Dams along the total length. The SSP is located near Navagam, Gujarat. Mr. Gajjar discussed controversial matters related to project since its beginning of construction in the year 1961. He explained to us about how the planning started, about the site selection, various challenges they faced during its construction and how they led towards success construction a dam which is a marvelous example of Engineering in the world.

He highlighted the important point that is how to bonding of new concrete and old concrete was carried out using welding of steel bars. He explained how the construction work was completed in 27 months by working day and night. He focused the importance of safety during the construction work. The students like the way in which Mr. Gajjar presented the talk.

Day 1: Repairs and Rehabilitation of concrete structures

Mr. Dhruvesh Shah, Head for India Business for M/s Vector Corrosion Technologies (Canada) in India and Consultant for Corrosion Mitigation & Strengthening of RCC Structures.



Mr. Dhruvesh conducted a session on Rehabilitation of concrete with the motto of 'Making Structures Happy Again'. He first all explained about various causes of corrosion of Steel, method to identify corrosion and various stages and types of corrosion. He explained to us about how to identify the level of corrosion and the importance of use of anode i.e. sacrificial element in order to save the reinforcement from corrosion. He discussed the execution of various projects in India and UAE in the field of corrosion mitigation of RCC structures, Repairs, Rehabilitation and strengthening of civil engineering structures. He also, discussed the protective coatings in diversified industries and projects

Mr. Shah further discussed case study of Parliament House work and of various bridges round the earth. He then explained about Non-Destructive Tests to be conducted in concrete, about the Design and performance of various structures and also about the problems in grouting and Post- tensioning.

Day 2: Underground/Elevated Works (Metro, HSR, railway)

Mr. Asit Shah, Cut and Cover Station & Tunnel Expert (Metro & High Speed Rail, New Delhi)



Mr. Ashit gave a very informative lecture on Proposed Bangalore UG-02 metro rail project. Various topics covered in his sessions were Scope of work, construction methodology, Salient features of station box, sequence of construction i.e. Preliminary work, Temporary work, and permanent work, various challenges for station construction, Safety, Health& environment factor. He explained the use of steel and diamond tunnel bore cutter and its use in soft and hard strata of soil.

Mr. Shah explained top down and bottom up method very clearly. He discussed the various stages of construction of station box. He explained how the utility channels are shifted during the unground construction work. He focused the importance of traffic movement and how it should be diverted for the smooth running of the underground work. Mr. Shah also presented the videos of underground works, and tunneling through soft rock and hard rock.

Day 2: Introducing practical aspects of unbounded post-tensioning system

Mr. Arun Sankhat, HOD, Design and Engineering Division, PTSI Pvt. Ltd, Vadodara



Dr. Arun Sankhat discussed about the basics of post-tensioning system. He explained in details simple bending action in RCC beam, Pre-stressing, effects of post-tensioning during bending action. He explained role of eccentricity in Post-tensioning system with examples. He focused on classification of pre-stressing system starting with the brief history of post-tensioning system. He illustrated unbounded post-tension system.

Mr. Sankhat explained profiles of PT cables with different loading conditions. He demonstrated the videos showing cutting of the PT cables, extension of PT cables, and advantages of PT cables. He has shown how PTSI is providing a technology that improves the performance of concrete structures.

Day 2: Up gradation in technology for treatment of Industrial effluent

Shri. Babubhai Patel, Chairman, Nandesari Industries Association, C.E.T.P.



Shri Babubhai Patel discussed about the Nandesari Industrial Association and work carried by it. Mr. Patel gave the information regarding the number of industries involved in this. He discussed common effluent treatment plant. He discussed waste water treatment at CETP by advanced oxidation process.

Further, Mr. Patel discussed “Hydrodynamic Cavitation” latest treatment process of wastewater, authenticated by NEERI, Nagpur.

He informed us that NIA is supplying 18 MLD RO water to Nandesari Estate as well as nearby villages. He discussed about the solid waste generated from CETP and he is supplying the calcium oxide congaing waste to cement manufacturing industries. Mr. Patel discussed that more than 2000 industries use hazardous solid waste disposal facility for disposal of industrial waste by landfilling and co-processing. Mr. Patel discussed the proposed activites in Nandesari area such as installation of common steam boiler, recycling of wastewater, expansion of CETP, storm water drain, paver blocks on road sidings and many more.

Brochure of Seminar RACE - 2020

Registration Form for Seminar

Full Name: _____
 Branch & Semester: _____
 Organization: _____
 Contact Number: _____
 Email: _____
 Amount (For Seminar) : ₹ 100/- For CVM Students
 Date: _____

Signature of the applicant
 (Last Date of Registration: February 29th, 2020)

Corresponding Address

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 Professor & Head, Civil Engineering Department
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Prof. Ratansharan Panchal
Faculty Coordinator
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Venue
Smt. Kamalaben Shankarbai Patel GCET Seminar Hall,
G H Patel College of Engineering & Technology
Bakrol Road, Vallabh Vidyanagar – 388 120
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Tentative Program Details

Duration	Expert	Topic
Wednesday 04th March, 2020		
10:00 am - 10:30 am	Inauguration	
10:30 am - 12:30 pm	Dr. Gopal Lalji Rai CEO, Dhirendra Group of Company Bombay	National Building with Rehabilitation Project
12:30 pm - 1:30 pm	Lunch	
1:30 pm - 3:15 pm	Mr. Ketan V. Patel Joint General Manager, L&T Chiyoda, Baroda	Application of 'Precast Concrete Building' in Oil & Gas Industry
3:15 pm - 3:30 pm	Tea Break	
3:30 pm - 5:30 pm	Shri A. V. Gajjar Former Executive Engineer, Sardar Sarovar Dam Projat (Narmada)	Design Aspects of Sardar Sarovar Dam
Thursday 05th March, 2020		
10:30 am - 12:30 pm	Mr. Ashit Shah Cut and Cover Station & Tunnel Expert (Metro & High Speed Rail, New Delhi)	Underground /Elevated Works of Unbounded (Metro, HSR, Railways)
12:30 pm - 1:30 pm	Lunch	
1:30 pm - 3:15 pm	Mr. Anun Sankhat HOD, Design & Engineering Division PTSI Pvt. Ltd., Vadodara	Introducing Practical Aspects of Unbounded Post-Tensioning System
3:15 pm - 3:30 pm	Tea Break	
3:30 pm - 5:30 pm	Shri Babubhai Patel Chairman Nandesari Industries Association, C.E.T.P.	Up-gradation in Technology for Treatment of Industrial Effluent

Two Days Seminar

on “Recent Advances in Civil Engineering” (RACE-2020)

4th - 5th March, 2020

Organized by



Dr. C. C. Patel & Mrs. Sushilaben Patel
DEPARTMENT OF CIVIL ENGINEERING
G H Patel College of Engineering & Technology
 Vallabh Vidyanagar – 388 120, Gujarat, India
 (A Charutar Vidyamandal Institution)
 www.gcet.ac.in



Supported By



The Management & The Institute:

The institute, G H Patel College of Engineering & Technology (GCET) is managed by highly reputed and the largest educational trust Charutar Vidya Mandal (CVM), established in 1945 for the upliftment of rural education. Over the span of 60 years, CVM has been making spectacular progress by venturing into various emerging disciplines. Today, CVM is nurturing 49 educational institutions of diverse types contributing to the panoramic growth of Vallabh Vidyanagar and New Vallabh Vidyanagar. Also, Honorable Vice President of India, Shri. M. Venkaiah Naidu declared the establishment of “The CVM University” during CVM Platinum Jubilee Celebration on December 14, 2019.

From the very inception (in the year 1996) GCET has striven to develop itself into an ‘Institution of Excellence’ in education and research in consonance with the spirit of modern Gujarat. In meeting this challenge for excellence, GCET has shaped its institution to the contemporary as well as future demands of need-oriented education. Today, GCET has a total strength of 2500 students studying for Chemical, Mechanical, Information Technology, Electronics & Communication, Computer, Electrical, Mechatronics and Civil Engineering under the tutelage of 125 dedicated and competent faculty members. Also, GCET have seven post graduate programmes. GCET is ranked 32nd amongst top engineering colleges across the country by “Data Quest – school survey 2019” and honored by ABP News National Education Awards in 2015 & 2016 with “Outstanding Engineering Institute West”.

About the Department:

Civil Engineering is the youngest department in the college established in the academic year of 2014 – 15 with an intake of 60, affiliated to GTU, Ahmedabad. The department has 11 qualified faculty members and

has developed all the necessary laboratories and infrastructure facilities. Two batches are passed out in academic year of 2017 -18 & 2018 – 19. Many students from passed out batches got placement and others are pursuing their masters from reputed universities like IIT Delhi, IIT Madras, MNIT, NICMAR, CEPT etc. Also, one of the students received L&T Build India Scholarship in 2019.

About the Seminar:

Civil Engineering is the most significant branch in accelerating the pace of economic development of any country. Latest developments in Civil Engineering will have a tremendous impact in the coming years as this field of civil engineering is spanning from the day to day life of the society such as the field of infrastructure, which include buildings, roads, bridges, dams, water supply etc. The recent innovation and advances in the field of Civil Engineering has made a drastic impact in the construction industry. As the world’s population increases, environmental concerns increases. Civil Engineers are entrusted by the society to achieve a sustainable world and raise the quality of life globally. The two days seminar “Recent Advances in Civil Engineering (RACE- 2020)” aims at exploring the new horizon on innovation from distinguished researchers, eminent professionals from academic institutions, field engineers, roads and building works departments, consultancy agencies, construction companies, water resources and irrigation departments, and other agencies to share their knowledge and experience. This event will be a platform to showcase and deliberate research work, studies and contributions for developing new concepts in Civil Engineering. The seminar consists of expert lectures on related themes by eminent personalities in major fields of Civil Engineering including Geotechnical Engineering, Structural Engineering, Environmental Engineering, Transportation Engineering, Water Resource Engineering etc.

PATRONS

Er. Bhikhubhai B. Patel, Chairman, CVM
 Shri. Manishbhai S. Patel, VP, CVM
 Dr. S. G. Patel, Hon. Secretary, CVM
 Shri. B. P. Patel, Hon. Jt. Secretary, CVM
 Shri. Mehul D. Patel, Hon. Jt. Secretary, CVM
 Shri. R. C. Talati, Hon. Jt. Secretary, CVM
 Shri. V. H. Patel, Hon. Jt. Secretary, CVM

ORGANIZING TEAM

Dr. Himanshu Soni, Principal, GCET
 Dr. Khadeeja Priyan, Convener
 Dr. Snehal Popli, Faculty Coordinator
 Prof. Ratansharan Panchal, Faculty Coordinator
 Parin Dalal, Student Coordinator
 Krunal Patel, Student Coordinator
 Prof. Poorav Shah, Member
 Prof. Niraj Kumar Mandowara, Member
 Prof. Riddhi Vashi, Member
 Prof. Krunali Patel, Member
 Prof. Anand Darji, Member
 Prof. Ajaysinh Vaghela, Member
 Prof. Jalpa Patel, Member



Banner of Seminar RACE – 2019



Two - Days Seminar
On
“Recent Advances in Civil Engineering”
(RACE – 2020)
4th - 5th March, 2020

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Vallabh Vidyanagar - 388 120, Gujarat, India
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www.gcet.ac.in

Programme details of the seminar



INVITATION



Two-Day Seminar

On

**“Recent Advances in Civil Engineering
(RACE - 2020)**

Organized By

Department of Civil Engineering

4th - 5th March, 2020

You are cordially invited to grace the inaugural ceremony

At 10.00 am on 4th March, 2020

Chief Guest

Mr. Ketan V. Patel

Joint General Manager, L&T Chiyoda, Baroda

Dr. S G Patel

Honorary Secretary

Charutar Vidya Mandal will preside
over the function

Dr. Himanshu Soni Principal, GCET

Dr. Khadeeja Priyan

Convener

Dr. Snehal Popli & Prof. Ratansharan Panchal

Faculty Coordinator

VENUE:

Smt. Kamlaben Shankarbhai Patel GCET Seminar Hall, G
H Patel College of Engineering & Technology, Bakrol
Road, Vallabh Vidyanagar -388 120

Timings	Programme Details
10:00 am	Prayer
10:05 am	Welcome Address by HOD and Floral Felicitation
10:10 am	Lighting of Lamp
10:15 am	Address by Principal
10:20 am	About the Seminar by Faculty Coordinator
10:25 am	Address by Chief Guest
10:35 am	Presidential Remarks
10:40 am	Vote of Thanks
10:45 am	National Anthem
