TAMASOMA JYOTIRGAMAYA
Estd.1995

THE BLUE PRINT

Department of Civil Engineering

Volume -4 2019-20

In this issue

DEPARTMENT OF CIVIL ENGINEERING

VISION

To develop Civil Engineering Department as a Centre of Excellence for imparting value-based education to the students at under-graduate and post-graduate level to meet industry needs and to develop as a major research center to meet the national and international standards.

MISSION

- To impart in-depth and up-to-date knowledge of Civil Engineering, stressing concepts with focus on character enhancement, leadership qualities, effective communication, social responsibility, pursuit of lifelong learning and professional development.
- To provide a platform to students to engage in innovative research work.

DEPARTMENT OF CIVIL ENGINEERING FACULTY AND STAFF

Principal's Message

Dr. C.D. Naidu, Principal, VNRVJIET

Today it is time of changes, challenges and opportunities. As an individual be ready to be recognized, appreciated, applauded and blend yourself with these changes occurring around you. The Newsletter is a platform for you all to satisfy your creative urge. As said if you sharpen your saw you can compete in this global world. So with an intention, the newsletter is designed to give chance to you all to set your minds free, allow and welcome you to this book of creativity to freely carve your imagination.

The newsletter is a kaleidoscopic picture of the institute's accomplishments and activities. It presents the events and endeavour of the institute and the department. Still, at its heart a department is about academic and intellectual pursuits. With many such ideas in mind we have set milestones to reach the heights in the years to come. "Writing is the painting of the voice"- Voltaire. As rightly said, the newsletter is a forum to exhibit the literary skills and innovative ideas. It unleashes your creative front giving you all opportunity to explore and express. My heartfelt congratulations to the members and students for their fruitful effort.

Editorial Note

Dr. A. Mallika
Prof. & HoD-CE, VNRVJIET

The civil engineering department of VNRVJIET is in a period of rapid growth and diversification that is strengthening our influence within the VNRVJIET community, Hyderabad, and the broader state and the nation. I am pleased to present the Third edition of the newsletter which highlights a few of these activities. Department has successfully organized the International conference on ***Construction Materials and Smart Structures for Sustainable Development (ICCMSSSD-2020)***" from 29th to 31st January 2020.Prof. M.R. Madhav is mentoring and guiding the department. I take pride in our alma matter for their continuous contribution in mentoring the students support through motivation and guidance lectures. Our team is making continuous efforts in exploring new teaching and learning methodologies and forwarding research contributions. I congratulate entire team for their sincere and continuous efforts in taking the department into the track to achieve its vision.

DEPARTMENT NEWS

ACHIEVEMENTS:

- ☞ Department of Civil Engineering organized 3-Day International Conference on "***Construction Materials and Smart Structures for Sustainable Development (ICCMSSSD-2020)***" from 29th to 31st January 2020.
- ☞ Department of Civil Engineering received the Certification of Achievement for Innovation of ***Pole Climber for Strength Analysis*** at IIA International Fair 2019.
- ☞ The Department of Civil Engineering has been granted an extension of the GHMC TPQC project for the 2020-2021 fiscal year.
- ☞ Department of Civil Engineering has released the magazine Newsletter - THE BLUEPRINT (Third Edition)
- ☞ Department of Civil Engineering generated an amount of Rs.56.53 lakhs from third party quality control works-GHMC and other Consultancy works.

Felicitated in International Innovation fair- 2019-2020

MEMORANDUM OF UNDERSTANDING (MoU) INITIATIVES:

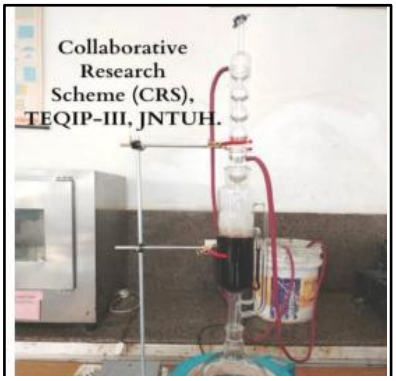
The Department of Civil Engineering has signed an MOU with the following industries.

- Anewa Engineering Private Limited
- Gram Bazar
- CADeploy Engineering Private Limited
- National Institute of Technology, Warangal

NEW FACILITIES CREATED:

During the 2019-2020 academic year, the following equipment's were procured in respective laboratories:

- Original Schmidt Rebound Hammer – Type N, Proseq, Switzerland
- Asphalt Mixer
- Soxhlet Extraction



Soxhlet Extraction in Highway Engineering laboratory

The Department of Civil Engineering has established the "SMART TRESTLE" IoT club. The following activities / projects are carried out as part of this.:

- A workshop on "IoT in Civil Engineering" by Mr. Pranay Das on 26th and 27th of September 2019.
- Mini Project on Smart Irrigation System
- Automatic Monitoring of Consolidation Test.

CONSULTANCY WORKS CARRIED OUT BY THE DEPARTMENT:

- ✧ Design and Development of Underground Tunnel Roof Supporting System Using Cellular Lightweight Concrete (Foam Concrete) is carried out in collaboration with M/s. CSK Technologies and M/s. Singareni Collieries Company Limited.
- ✧ Condition Assessment of the existing structure using NDT test is carried out for M/s. Megha Engineering Infrastructure Limited.
- ✧ Dr. C. Naveen Kumar rendered his services to AECOM- URS Scott Wilson Pvt. Ltd as an independent Engineer service for 4 Lanning of Belgaum- Khanapur section.
- ✧ Dr. R. Durga prasad, Assistant professor CED visited Narayankhed to work on 'plastic recycling with sand' project and testing in VNRVJIET.
- ✧ Dr. Naveen Kumar is worked on project "Trend Analysis of Covid-19 growth using Machine learning" along with student team.

BEST PRACTICES:

- Department of civil Engineering has extended its services for Clean & Green Campus and Environmental Dashboard.

GUEST LECTURES ORGANIZED:

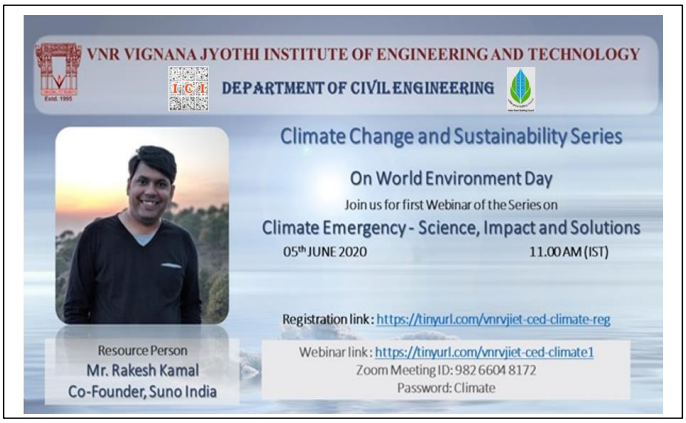
- ✧ Mr. Rahamatullah, PEBS Pennar Ltd delivered a guest lecture on "Pre-engineered Building Systems" on 20th July 2019.
- ✧ Prof. M. R. Madhav (AICTE-INAE Distinguished Visiting Professor) delivered a guest lecture on "Design and Construction of G+3 flats on RFB at Machilipatnam (Rudravaram)", on 21st November 2019.
- ✧ Prof. M. R. Madhav (AICTE-INAE Distinguished Visiting Professor) delivered a guest lecture on "Mining Geotechnical Parameters from Pile Load Tests" ,13th November 2019.
- ✧ Mr. Triveni Prasad Nanda, Asst. Prof. RICS-School of Built Environment, Amity University delivered a lguest lecture on "Sustainable practices in Construction", on 17th December 2019.
- ✧ Mr. Veerendra Nizampure, Head – Customer Technical Services, JK white Cements Div delivered a lecture on "Trending Building Materials in Market", on 24th December 2019.
- ✧ Prof. M. R. Madhav, (AICTE-INAE Distinguished Visiting Professor) delivered a guest lecture on "Writing-Technical skills", on 20th February 2020.
- ✧ Prof. M. R. Madhav, (AICTE-INAE Distinguished Visiting Professor) delivered a guest lecture on " Backfill Soil Interaction Analysis", on 27th February 2020.
- ✧ Prof. M. R. Madhav (AICTE-INAE Distinguished Visiting Professor) delivered a lecture on "Granular Pile Anchors" on 29th August 2019.
- ✧ Prof. M. R. Madhav (AICTE-INAE Distinguished Visiting Professor) delivered a lecture on "Geotechnical aspects of foundation design for tall structures" on 11th September 2019.
- ✧ Midas R&D Centre India delivered an Online Webinar on "Liquefaction analysis of a building with Pile foundation using GTS NX and Seepage-Slope coupled analysis using Soil Works" on 28th November 2019.
- ✧ Midas R&D Centre India delivered an Online Webinar on "PSC Box Girder and Box Culvert : Modeling, Analysis and Design using Bridge Software" on 24th December 2019.

✧

Mr. Rahamatullah, PEBS Pennar

ALUMNI LECTURES

- Mr. Rakesh Kamal, Founder, Suno India delivered a Webinar on "Climate Emergency – Science, Impact and Solutions" on 5th June 2020.



FACULTY CORNER

JOURNAL PUBLICATIONS:

- Ch. Soujanya, G Akhila Priya, Penki Ramu, C. Naveen published a paper titled "A Novel Technique to design Optimum Bituminous mix Designs based on R studio and Autograph with Integration" in Materials today : Proceedings (Elsevier),ISSN: 2214-7853, H Index 11.
- M.Sreeram, A.Ramesh, V.Venkat Ramayya, M.Kumar published a paper titledtitled "Laboratory Assessment of Warm Mix Asphalt Mixes When Prepared With Varying Packing Characteristics And Inclusion of Fibre" in Journal of Indian Road Congress, IRC. ISBN 26432
- Akhil Namala, Penki Ramu, Shiva Shankar Kalyanshetty publisheda paper titled"Influence of sisal fiber on Resistant Modules of Hot mix asphalt with addition of marble dust" in Journal of Civil and Construction Engineering (MAT) Vol 5, No 1 (2019), 8-23,e-ISSN: 2457-001 on January 2019 .
- Pupalwad Arti Sudam , M Padmavathi, K.Ravikumar , M.Nagaraju publisheda paper titledtitled "An Experimental Study on CBR of Expansive Soil Subgrades using Geotextiles" in International Journal of Civil and Structural Engineering Vol. 7, Issue 1, pp: (119-128), ISSN 2348-7607, September 2019.
- Lavakumar Reddy Palle, Arti Sudam, Madhav Madhira publisheda paper titled"Estimating optimal Geotextile type for controlling soil Erosion" in international journal (IJITEE) Volume 8, Issue :10,ISSN 2278-307, August 019.
- Shirisha Galiguti, P. Arti Sudam published a paper titledtitled "Prediction of FSI Value by using Hyperbola Method" in International Journal of Engineering and Advanced Technology,Volume-8 Issue-6,pp.4899-4903,ISSN: 2249 – 8958, August 2019.
- Dr. Rakesh Siempu, Naga Siva Rao S, Dr. R. Srinivasa Kumar publisheda paper titled" Evaluation of Level of Service At Signalized Intersections Using Microscopic Simulation Technique" in

International Journal of Technical Innovation in Modern Engineering & Science ,Volume 5, Issue 09, pp No:-42-53,ISSN:2455-258, September 2019.

- Sai Poojitha Nimmagadda, Sagar Yeruva, Rakesh Siempu published a paper titled "Improved Diabetes Prediction Model for Predicting Type-II Diabetes" in International Journal of Innovative Technology and Exploring Engineering (IJITEE),Volume-8 Issue-12,ISSN: 2278-3075 on October 2019.
- Vijay Bharath Reddy and Rakesh Siempu published a paper titled "Effect of Basalt Fibers on The Properties of High Strength Self-Compacting Concrete" in International Journal of Innovative Technology and Exploring Engineering (IJITEE),Volume-9 Issue-1; pp. 3995-3998,ISSN: 2278-3075 on November 2019.
- G. Sai Kiran, Rakesh Siempu and G A V S Sandeep Kumar published a paper titled "Effect of Steel Fiber Aspect Ratio on the Properties of High Strength Self Compacting Concrete" in International Journal of Innovative Technology and Exploring Engineering (IJITEE),Volume-9 Issue-2; pp. 2938-2941,ISSN: 2278-3075 , December 2019.
- R. Anunai and Rakesh Siempu published a paper titled "Behavior of High Strength Concrete Subjected to Elevated Temperature" in International Journal of Innovative Technology and Exploring Engineering (IJITEE)Volume-9 Issue-2; pp. 2997-3000,ISSN: 2278-3075 , December 2019.
- Dr.B. Narendra Kumar and D.Sukumar Varma published a paper titled "Physical and Mechanical Properties of Self-curing and Self-compacting Concrete using Nano-silica as Mineral Admixture" in International Journal of Innovative Technology and Exploring Engineering ,Volume 9,No. 1, pp. 3527-3530, November 2019.
- P Gopinath, Dr. C.Naveen Kumar, T Naga Teja published a paper titled " Characteristics of Laboratory Produced Hard Grade Bitumen With Gilsonite Modification" in International Journal of Technical Research & Science (IJTRS),Page:10-15, Volume IV Issue XI, on November 2019.
- Burma Vamshi Krishna, Adepu Ramesh, Molugaram Kumar published a paper titled "Estimation of Passenger Car Units for Heterogeneous Traffic Condition Using Vehicular Speed and Composition at Mid Block Section" in International Journal for Traffic and Transport Engineering, 2019,9(4): 431 – 441, November 2019.
- V V Sai Saketh,Teja Tallam, Jyothi Sree Pala,Chitirala Hardik published a paper titled "Level of Service (Los) of Public Transport Using Fuzzy Logic: A Case Study on Hyderabad Metro" in Helix International Journal,2277-3495 , December 2019.
- Suresh Kommu, SS. Asadi published a paper titled "Design of Eco-Friendly Geo-Composite Liner for Flyash Ponds" in International Journal of Innovative Technology and Exploring Engineering(IJITEE),Volume:9, Issue: 3,ISSN: 2278-3075, January 2020.
- S. Sangeetha, P. Harikrishna published a paper titled "Analysis of Heave Behavior of Expansive Soil Provided with Granular Pile Anchors Using PLAXIS" in Advances in Computer Methods and

Geomechanics, Volume: 55, Issue: LNCE, Page no: 391-404 ISBN: 978-981-15-0885-1, January 2020 .

- G. Lalitha, C. Ramachandrudu and Ch. Sashidhar published a paper titled " Strength and Durability Studies of Cement Concrete M45 Fine Aggregate Partially Replaced with Waste Crushed Glass" in International Journal of Advanced Research in Engineering & Technology (IJARET),Volume 11, Issue 2, pp. 1-9;ISSN Print: 0976-6480 and ISSN Online: 0976-6499;10.2216, February 2020.
- Venkateswararao Lakkoju, Suresh Kommu, M. Madhusudhan Reddy, Bodanapusony, SS.Asadi published a paper titled "In-Situ Consolidation Analysis by Asaoka and Hyperbola Methods" in International Journal of Scientific & Technology Research, Volume 9, ISSUE 02,ISSN 2277-8616 , February 2020.
- S. Syed Ibrahim,S. Kandasamy,S. Pradeepkumar published a paper titled "Performance Evaluation of Hybrid FRC using Adaptive Neuro-Fuzzy Technique" in International Journal of Civil Engineering and Technology (IJCIET),Volume 11, Issue 2, pp. 164-173 , February 2020.
- G.Lalitha, Dr. C .Shashidhar ,Dr. C. Ramachandrudu published a paper titled "Strength and Durability Studies of Cement Concrete M40 Fine Aggregate Partially with Waste Crushed Glass" in Emerging Trends in Civil Engineering,Vol-61, 2366-2557, February 2020.
- Suresh Kommu,SS.Asadi published a paper titled "Suitability of Geo-composite Layer For Fly Ash Ponds" in Journal of Physics: Conference Series 1455 (2020) 012029, February 2020.
- C.Vidya Mahitha & Dr.B.Narendra Kumar published a paper titled "Development of High Strength Self Compacting Concrete by Incorporating Red Mud" in International Journal of Civil Engineering & Technology, Vol.No: 5 , Issue No 3 , Page No 24 -31, May 2020.
- B Praveen & A Ramesh published a paper titled "Development of Model for Seat Belt Use and Assessment of Perspective Behavior Among Indian Drivers" in J - International Journal for Traffic and Transport Engineering,10(2): pp: 126 - 137 ,April 2020.
- P. Narender Kumar, A. Ramesh and R. Durga Prasad published a paper titled "A Study on Plastic Cell Filled Concrete Pavement with Partial Replacement of Recycled Aggregate for Low Volume Road" in Advances in Sustainable Construction Materials (B) 212 -223 , May 2020.
- D Sai Bharadwaj & A Ramesh published a paper titled "An Experimental Study on Strength Development in Concrete by Incorporating Rice Husk Ash as Replacement to Cement with Recycled Aggregate for Low Volume Roads" in Recent Trends in Civil Engineering (B),77; pp:978-981 , June 2020.
- MVVS. Harsha, PVGS Gopi Raghunadh and K. Ravikumar published a paper titled "Prototype of Eco-Friendly Indoor Air Purifier to Reduce Concentrations of CO_2, SO_2 and NO_2" in J-Nature Environment and Pollution Technology,19 (2), 747-753, June 2020.
- P. Narender Kumar, A. Ramesh and R. Durga Prasad published a paper titled "A Study on Plastic Cell Filled Concrete Pavement with Partial Replacement of Recycled Aggregate for Low Volume

Road" in B. Advances in Sustainable Construction Materials ,Volume 68 on 18-04-2020 June 2020

- S. Syed Ibrahim, S. Kandasamy and S. Pradeepkumar published a paper titled "Performance evaluation of hybrid FRC using adaptive neuro-fuzzy technique" in J. International Journal of Civil Engineering and Technology (IJCIET),Volume 11, Issue 2, pp. 164-173 ,ISSN Print: 0976-6308 and ISSN Online: 0976-6316, June 2020
- Partha Sarathi P., Umashankar B., Sasanka Mouli Sravanam, Vinod Kumar M published a paper titled "Site characterization of Existing and Abandoned Coal Ash Ponds Using Shear Wave Velocity from Multichannel Analysis of Surface Waves (MASW)" in J. Journal of Geotechnical and Geoenvironmental Engineering., June 2020
- Goud, N.G., Sasanka Mouli S., Umashankar B., Sireesh S., Madhav M.R published a paper titled "Geogrid Reinforced Flexible Pavements- Sustainable Design Approach from Indian Perspective, Innovative Infrastructure Solutions, Transportation and Transit systems" in J. Journal Frontiers in Built Environment, Vol. 6 No. 71 on 16-06-2020, June 2020
- Kanneganti Sravani,Suresh Kommu, SS Asadi, Venkateswara Rao L published a paper titled "Linear Regression Analysis of Black cotton soil Treated with Silica Fume" in International Journal of Advanced science and Technology Vol.29, No.5, April2020.
- G. Lalitha published a paper titled "Durability Performance of Concrete (M-45) Fine Aggregate Partially Replaced with Crushed Waste Glass" in J. International Journal of Innovative Technology and Exploring Engineering (IJITEE),Volume-9 Issue-6, April 2020.
- Sai Kubair, Waim Akshay R., Sridhar Raju, Sham Ravindranath published a paper titled "Laboratory Evaluation of Gap Graded Rubber Modified Warm Mix Asphalt" in International Journal of Pavement Research and Technology, Volume 13, Issue 3 June 2020

- V.Guru Prathap Reddy, B.Murali Krishna, T.Tadepalli, P.Rathish Kumar published a paper titled "Image-based Deterioration Assessment of Concrete" in Materials Today Proceedings, Volume 17, Part 1, 2019 Pages 295-302 , March 2020.
- DSVSMRK Chakravarthy, Mallika Alapati published a paper titled "Study on Effect of Nano-Silica on Mechanical Properties of Concrete" in i-managers journal on Structural Engineering,Vol.8,No.4,pp:41-48 , December 2019.

CONFERENCES PUBLICATIONS:

- JYV Shiva Bhushan, Raj Kumar published a paper titled "Compaction Characteristics of crushed concrete fine aggregates and Partial Replacement of Sand Mixture" in Two Day National Conference on Advances in Science and Technology in Civil Engineering (NCASTCE-2019).

- K. Sushmitha Singh, Hardik, Dr. C. Naveen Kumar presented a paper titled "A Study of Dynamic Traffic Assignment Using Statistical Method for Urban Scenario" in International Conference on Science Engineering and Technology 2k19 on 4th -5th July 2019.

- D. Akhila Priya, Dr. C. Naveen Kumar presented a paper titled "Strategic planning of Transit Oriented Development for Hyderabad Metro" in International Conference on Science Engineering and Technology 2k19 on 4th -5th July 2019

- Sai Prasanna Reddy, Teja Tallam, Dr. C. Naveen Kumar presented a paper titled "Calibration of pedestrian flow model for an urban signalized midblock" in International Conference on Science Engineering and Technology 2k19 from 4th -5th July 2019.

- P. Jyothi sree, Teja Tallam, Dr. K.M.Lakshmana Rao presented a paper titled "Pedestrian-Vehicle conflict analysis at crossings-A Review paper" in Innovations in Civil Engineering through sustainable technologies on 20th & 21st September 2019.

- Suravarapu Sairam, Kadali Srinivas presented a paper titled "A Study on Thermal Conductivity of Coarse And Fine Grained Soils" in International Conference on Innovative Trends in Civil Engineering for Sustainable Development (ITCSD - 2019) - NIT Warangal on September, 2019.

- B. Venkat Rao, Dr. A. Mallika presented a paper titled "Study on optimization and efficiency of outrigger System as virtual outriggers" in International Conference on innovative trends in Civil Engineering for Sustainable Development (ITCSD-2019) September 2019.

- J. Vishali, R. Durga Prasad, A. Jyothirmai presented a paper titled "Mechanical and Durability studies on High Performance self-compacting Concrete Containing Wollastonite Microfibers" in International Conference on innovative trends in Civil Engineering for Sustainable Development (ITCSD-2019) , September 2019.

- Hima Bindu. K and Lalitha. G presented a paper titled" Durability properties of High Strength Concrete with Copper Slag and Carbon Fiber Admixture" in Innovative Trends in Civil Engineering for Sustainable Development (ITCSD-2019) , September 2019.

- A.Ramesh, B. Praveen, M Kumar presented a paper titled "Motorbike Drivers Perspective on Wearing of Helmet in Hyderabad Metropolitan City, India." in 13th International conference on Eastern Asia Society for Transportation Studies from 9th to 12th September 2019.

- Kadali Srinivas , Prithvi Chandra presented a paper titled "Estimation of Arrival Time of Fine-Grained Soils Using Bender Element Test" in FACE 2019-Futuristic Approaches in Civil Engineering Conference from 29th - 30th August 2019.

- P. Vinod Kumar, B. Manikanta Reddy, MR. Madhav presented a paper titled "Ground Response Analysis of Passighat Airport and Moga Bridge Aites" in FACE 2019- Futuristic Approaches in Civil Engineering Conference from 29th - 30th August 2019.

- Ramu Penki, Shiva bhushan JYV, Shravani B and Nagarani presented a paper titled "Cinder Coal Aggregate Quality Index (AQI) appraisal based on weighted arithmetic index Method and Fuzzy logic" on FACE 2019- Futuristic Approaches in Civil Engineering Conference from 29th - 30th August 2019.

- J. Vishali, R. Durga Prasad, A. Jyothirmai presented a paper titled "Mechanical and corrosion studies on high performance self-compacting concrete containing wollastonite microfibers" in Innovations in Civil Engineering through Sustainable Technologies on 20th- 21st September 2019.
- Hima Bindu. K and Lalitha. G presented a paper titled "Experimental Study on High Strength Concrete with Copper Slag and Carbon Fiber" in Recent Advances in Civil Engineering (NCRACE-2019),ISBN:978-93-88305-99-0& 82-87 , 5th July 2019.
- P. Artisudam, H. Shivaprasad presented a paper titled "An Experimental Study on CBR of Expansive Soil subgrades" in Young Researchers Symposium on Geotechnical Engineering 2019, organized by NITW from October 2019.
- D. Harinder presented a paper titled "The role of coir Geotextile to stabilize the weak subgrade soil for LVR" in Young Researchers Symposium on Geotechnical Engineering 2019, organized by NITW from October 2019.
- Manisha, Nageshwar Rao, Mrunalini presented a paper titled "Variation of Coefficient of Consolidation with Time Step in Asaoka Method" in Symposium on Recent Advances in Sustainable Geotechnics 2019, organized by IIT Kanpur on 17th -20th October 2019.
- Manjoth Singh, K. Ravi Kumar, Akshay, Jyothsna presented a paper titled "Geophysical Investigation to find the potential ground water Recharge sites in VNRVJIET Campus, Hyderabad" in 24th HYDRO 2019 – International Conference from 18th - 20th December 2019.
- Dr.C.Naveen Kumar, Teja Tallam, Jyothi sri pala, Sriram ravi teja, Deepak kumar presented a paper titled "Applying Support Vector Classifiers for Analysis of Pedestrian Vehicular Conflicts at Unsignalized Crosswalk" in IEEE Indicon from December 2019.
- Krishna Karthika Gorla and Sasanaka Mouli Sravanam presented a paper titled "A Review on Geosynthetic Reinforced soil walls with Full-Height Panel Facing" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.
- Sravanam Sasanka Mouli, Balunaini Umashankar and Madhira R. Madhav presented a paper titled "Effect of Wall Facia on the Behavior of MSE walls" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.
- Siri Ande, Ch. Nageshwar Rao and MR Madhav presented a paper titled "Rate of Consolidation of Vertical Drains Accounting Smear Effect and Well Resistance" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.
- Vamsi Kalyan Veerla and Kadali Srinivas presented a paper titled "A Brief Review of Literature on Soil Interface Interaction "in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.
- V. Nikhila Bhavani and S. Sangeetha presented a paper titled "Performance Analysis of Geomembrane subjected under Elevated Temperatures" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.
- Temura Rahul, P.N. Singh and V Ramya Krishna presented a paper titled "Evaluation of Bearing Capacity and Settlements of Soil for Various Hard Rock Depths for a 128m High Commercial Building with Raft Foundation" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- J. Sandhya Rani, BDV Chandra Mohan Rao and Maganti Janardhana presented a paper titled "A Comparative Study on RCC and Laminated Composite Domes using FEM" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- T Shiva Sai, M Sai Krishna and G A V S Sandeep Kumar presented a paper titled "Comparison of the Stiffness of RC Beams with GFRP and CFRP Sheets" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- D. Yamini, C. Harshitha and Mallika Alapati presented a paper titled "Parameters Influencing PZT Sensing in Structural Health Monitoring-A Review" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- D. Jeetendra Prakash, K. Rama Mohana Rao and B.D.V. Chandra Mohan Rao presented a paper titled "Rail Structure Interaction Analysis for Providing Continuous Welded Rail on Railway Bridges" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- G. Lalitha and J. Manasa presented a paper titled "Development of High Strength Sustainable Concrete Using E-Waste as Partial Replacement of Fine Aggregate "in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- Vishal Singh, B. Narendra Kumar, and Pooja Mandal presented a paper titled "An Experimental Investigation on flow and Strength Properties of Self compacting Geo-polymer concrete by Performing regression analysis using MS Excel & MATLAB" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- V.Purushotham, B.D.V.Chandra Mohan Rao and P.Srinivisa Rao presented a paper titled "Parametric Study of Silo Analysis" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- A. Bhargavi and B. Narendra Kumar presented a paper titled "An Experimental Studies on Self Compacting Geo-Polymer Concrete containing Metakoalin at Ambient Curing Condition;" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- D.S.V.S.M.R.K. Chekravarty, Mallika Alapati, P. Sravana and Srinivasa Rao presented a paper titled "Effect of Using Nano Silica on Mechanical Properties of High Strength Concrete" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- Rakesh Siempu and Rathish Kumar Pancharathi presented a paper titled "Numerical Study on the Bond Behaviour of Plain and Ribbed bars in Self-Compacting Concrete" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- Karyakarte Vrushali and B.D.V. Chandra Mohan Rao presented a paper titled "Analysis of Double cell RC box Structures by varying cushion depths" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- Ravella Durga Prasad presented a paper titled "Investigation on High Performance Self Compacting Concretes through Ternary Blends"in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- A. Jyothirmai and R. Harika presented a paper titled "A Study on Mechanical & Durability Properties of Concrete with Dolomite and Copper Slag replacement" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- Dharmiki Anusha Deevi, Akshay S.K. Naidu and B.D.V. Chandra Mohan Rao presented a paper titled "Optimum PZT Transducer Location for Effective Damage Identification in Thin Cantilever Beam" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 on 29th to 31st January 2020.

- P. Arti Sudam, ShivaPrasad and M. Padmavathi presented a paper titled "Determining the Suitability and Thickness of CNS Soil Layer for Canal Lining" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 on 29th to 31st January 2020.

- M. Deepthi Madanu, CH. Nageshwar Rao and M.R. Madhav presented a paper titled "Statistical Analysis of variability in Settlements of fine-grained Soils" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 on 29th to 31st January 2020.

- Suresh Kommu, M Akhil Kumar and Madhav Madhira presented a paper titled "Optimization of Embankment Widening" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- K. Sravya and S. Sangeetha presented a paper titled "A crucial recap on application of bioremediation techniques to contaminated soils" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020.

- Shirisha Galiguti and P. Arti Sudam presented a paper titled "A Review on Analysis of Construction and Demolition Waste" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020

- Sadula Vedhasri, CH Nageshwar Rao and MR Madhav presented a paper titled "Estimation of shaft and Base Responses of a Pile from Pile Load Tests" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020

- Lava Kumar Reddy Palle, P. Arti Sudam and Shivaprasad presented a paper titled"A Contemporary Review of Literature on Production of Bricks from Industrial Wastes" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020

- P N Singh presented a paper titled"Requirements for improving water use efficiency in India" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020

- K. Girish, K. Ravikumar, M. Rahul, D. Srinath, B. Gopi and G. Raju presented a paper titled"Influence of Stagnant Surface Water Body on Groundwater Movement (in 2D) in the Vadose Zone Using VS2DTI – A Sustainable Study on Lake Water Management" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020

- Keerthi Priya Kasturi and P. N. Singh presented a paper titled"Review on applicability of co-management strategies for Sustainable Lake Management in India" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020

- P. Sushanth, Teja Tallam and C. Naveen Kumar presented a paper titled"Estimation of Dwell Time Model for Initial and Interchange Stations of Public Transport" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020

- B. Surya teja, C. Naveen Kumar, Ch. Hardik and Teja Tallam presented a paper titled "Prediction of Short-term Traffic Volume for an Urban Road at Hyderabad" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020

- Teja Tallam and K. M. Lakshmana Rao presented a paper titled "Estimation of Pedestrian Level of Service along Sidewalks" in ICCMSSSD 2020, organized by VNRVJIET, ISBN :978-93-8935-488-1 from 29th to 31st January 2020

- Suresh Kommu, SS.Asadi presented a paper titled "Suitability of Geocomposite layer for fly ash ponds" in Journal of Physics: Conf. Series, conference Series 1455 (2020) 012029 on March2020.

- Teja Tallam, Bhukya Bhadru presented a paper titled "Development of Speed Prediction Models for Different Categories of Roads" in Advances in Geotechnical and Transportation Engineering ISBN: 978-981-15-3662-5 on May 2020.

- Sai Prasanna Reddy, Teja Tallam, K. M. Lakshmana Rao presented a paper titled "Calibration of Pedestrian Flow Model Using Greenshield's Macroscopic Stream Model for a Signalized Midblock" in Advances in Geotechnical and Transportation Engineering, ISBN: 978-981-15-3662-5 on May 2020.

- P Vinod Kumar, B Manikanta Reddy, MR Madhav presented a paper titled "Ground Response Analysis of Passighat Airport and Moga Bridge Sites" in Ground Response Analysis of Passighat Airport and Moga Bridge Sites)- Springer Publications

- Vishal Singh , Pooja, Dr. B.Narendra Kumar presented a paper titled "The Use of Artificial Intelligence in High Strength Hybrid Fiber Self Compacting Concrete" in International Conference on Advances in Computer Engineering & Communication System, May 2020.

- Soma Sree & Dr.B.Narendra Kumar presented a paper titled "Graphene Oxide as Nano Material in Cement Composites - A Review" in 6th National Conference on Advances in Civil Engineering for Sustainable Environment, Page 84-91, June 2020.

- Blessey Sravya, Dr.B.Narendra Kumar presented a paper titled "Comparative Study on Influence of Steel and Glass Fibers on High Strength Self Compacting Concrete "in 6th National Conference on Advances in Civil Engineering for Sustainable Environment,112-120 , June 2020.

- Vishal Singh , Pooja, Dr.B.Narendra Kumar presented a paper titled "Predicting Split Tensile Strength of Hybrid Fiber Self Compacting Concrete By using Artificial Intelligence" in National Conference on Computational Intelligence and Applications on 19th & 20th June , at Research Institute Bhopal.

- Vidya Mahitha , Dr.B.Narendra Kumar presented a paper titled "Red Mud as Replacement of Cementitious Material -A Review" in National Conference on Advances in Civil Engineering on 19th & 20th June , at Research Institute Bhopal.

- Vinod, Dr.B.Narendra Kumar presented a paper titled "Recent Research on Nano silica and Nano Alumina Based Cement mortar and Concrete" in National Conference on Advances in Civil Engineering , at SIRT , Bhopal.

- Dr.B.Narendra Kumar presented a paper titled “Influence of Graphene Oxide on cement mortar and concrete-A review” in National Conference on Advances in Civil Engineering , Bhopal.
- Latha Sri , Rajesh , Dr.B.Narendra Kumar presented a paper titled “Influence of Quartz Materials on Performance of High Strength Self Compacting Concrete” in National Conference on Advances in Civil Engineering , Bhopal.

BOOK CHAPTERS/LECTURE NOTES:

- B.Venkat Rao,Mallika Alapati published research article on “Study on Optimum Location of Outrigger for High-Rise Building” in Lecture notes in Civil Engineering H index-2.
- Dr. B. Narendra Kumar published a book chapter titled “Performance Studies on Self Compacted Geo-Polymer Hybrid Fiber Reinforced Concrete” in Advances in Sustainable Construction Materials on 16 May 2020.
- Penki Ramu, J. Y. V. Shiva Bhushan, B. Shravani, I. Nagarani published a book chapter titled “Cinder Coal-Aggregate Quality Index (AQI) Appraisal Based on Weighted Arithmetic Index Method and Fuzzy Logic” in Springer Nature Book Chapter.

LECTURES DELIVERED BY OUR FACULTY AT OTHER INSTITUTIIONS:

- Dr. A. Mallika, Professor and Head, delivered a lecture on ‘Applications of Piezoelectric sensors in SHM’ in webinar ‘Structural Health Monitoring’ organized by JB Institute of Engineering and Technology, 24th June 2020.
- Dr. K Ravi Kumar delivered lecture on **“**Developing Winning Research Proposals” at 5-Day Workshop on ‘Writing Good Quality Research Proposals’ organised by VNRVJIET from 6th to 11th January 2020
- Dr. A. Mallika delivered lecture on “Evolution of structural analysis Methods” at 1-Week Training on ‘STAAD Pro. & ETABS’ organised by Osmania university from 16th to 22nd September 2019
- Dr. A Ramesh delivered lecture on ‘Binder Characterization & Highway Development and Maintenance Management System- Application in Local Road Network’ at ‘3-Day National Workshop on Materials for Sustainable Infrastructure Development’ organised by CVR College of Engineering from 25-09-2019 to 27-09-2019.
- Dr. S. Rakesh delivered lecture on ‘Lightweight Concrete’ at ‘One Week FDP on Smart Materials in Construction’ organised by Vardhaman College of Engineering from 25th to 31st June 2020
- Dr. S. Pradeep Kumar delivered lecture on ‘Self-Healing Concrete’ at the One Week FDP on ‘Recent Advanced Materials for Sustainable Development in Construction’ from 24th to 28th February 2020.
- Dr. C Naveen Kumar delivered lecture on ‘Inland waterways in India’ at the ‘Workshop on Key Issues & Challenges for Inland Water Transportation Network in India’ organised by GMR Institute of Technology on 12th and 13th September 2019.

PROGRAMS ORGANIZED BY THE DEPARTMENT:

- Department of Civil Engineering organized 3-Day International Conference on "***Construction Materials and Smart Structures for Sustainable Development (ICCMSSSD-2020)***" from 29th to 31st January 2020
- Department of Civil Engineering organized a Two-Day National Workshop on Business Opportunities in Waste Management (BOWM 2019) on 3rd and 4th October 2019.
- Department of Civil Engineering organized a webinar series titled "GEO -SERIES" in June 2020.

Inaugural of ICCMSSSD-2020

FACULTY SPONSORED /PARTICIPATED FOR CONFERENCES/ SEMINARS/ WORKSHOPS /FDPs, ETC.:

- Mr.T. Nagateja, Assistant Professor attended National Conference on Futuristic Approaches in Civil Engineering (FACE). organized by Mahindra Ecole Centrale on 30.08.2019
- Dr. C. Naveen Kumar, Associate Professor attended National Conference on Futuristic Approaches in Civil Engineering (FACE). organized by Mahindra Ecole Centrale on 30.08.2019).
- Dr. K. Srinivas, Associate Professor attended National Conference on Futuristic Approaches in Civil Engineering (FACE). organized by Mahindra Ecole Centrale on 30.08.2019).
- Mr. JYV Shiva Bhushan, Asst. Prof. attended National Conference organized by IGC, Surat from 19th -21st December 2019

- Dr. S. Mouli, attended National conference GeoKNIT organized by IIT Hyderabad on 22nd February 2020
- Dr.S. Mouli, attended National conference on Geo Apps organized by JNTU Hyderabad and IGS Hyderabad Chapter on 24th January 2020
- G. Lalitha attended an International conference "Recent Advances in Mechanical, Civil and Electrical Engineering" organized by St. Martins Engineering College from 19th to 20th June 2020.

WORKSHOPS:

- Dr. B. D. V. Chandra Mohan Rao, professor, attended workshop on UK-India Education and Research Initiative (UKIERI) jointly organized by AICTE and Dudley college, UK.
- Mr. PVS Gopi Raghunath, Ms. R. Harika, G. Anuja attended Design Sensitization Orientation Workshop organized by Design Thinking Team, VNRVJIET from July 18th -20th, 2019
- Dr. K. Ravi Kumar, Dr. Kadali Srinivas attended Training cum Workshop on the topic of 'Developing Winning Research Proposals on Digital Solutions in Agriculture'. organized by National Academy of Agricultural Research Management, from 19th to 23th November 2019,
- Ms.V. Ramya Krishna, Mr. JYV Shiva Bhushan, S. Sangeetha and Dr. S. Sasanka mouli attended one day workshop on Geo Practices organized by JNTUH on 23rd November 2019.
- Dr. S.Sasanka mouli, attended two day workshop on sustainable use of Geosynthetics organized by VR Siddhartha Engineering College, from 2nd to 3rd December 2019.
- Dr C. Naveen Kumar, Assoc. Prof., attended one day workshop on Deep learning applications design, development, and deployment in IoT Edge organized by 16th IEEE India council International Conference INDICON 2019, Marwadi University, Rajkot, India on 13th December 2019.
- K. Suresh, Asst. Prof., attended one day workshop on Emerging Technologies in Civil Engineering (NWETC-2019) organized by Vignan's Foundation for science, Technology & Research, Guntur on 19th December 2019
- JYV Shivabhushan, Asst. Prof., attended one day workshop on urbanization organized by IGS in association with Indo Korea on 18th December 2019

- ☞ All the faculty of civil Engineering Department attended a one-week FDP on learning by doing on Python. organized by CDC, VNRVJIET from 18th to 23rd November 2019
- ☞ Dr. C. Naveen Kumar, Assoc. Prof. & T. Naga Teja, Asst. Prof., attended Road Safety & Traffic Management Hackathon on 19th October 2019, organized by Society for Cyberabad Security Council, Cyberabad Police.
- ☞ Dr. A. Mallika, Professor and HoD, attended Edu Summit on 15th November 2019, organized by CII at Hotel Hayath, Hyderabad, on the topic of Reimagining the future of Higher Education.
- ☞

Dr. C. Naveen Kumar at Road Safety & Traffic Management Hackathon

FACULTY ACHIEVEMENTS/ RECOGNITIONS:

Patents Published:

- ✧ K. Suresh (Asst. Prof.) of Civil Engineering Department has published patent on Geo- composite Liner Systems on 26th July 2019.

ACADEMIC RECOGNITIONS:

- ✧ Dr. BDV Chandramohan Rao (Prof.), Dr. A. Ramesh (Prof.), Dr. K. Srinivas (Assoc. Prof.), Dr. R. Durga Prasad (Asst.Prof.), was awarded with a joint research project (amount Rs. 3,00,000) under JNTUH TEQIP-III scheme on 23.07.2019.

- ✧ S. Sangeetha (Asst.Prof.) of Civil Engineering Department registered for Ph. D at NIT Warangal in July 2019 programme.
- ✧ Dr. A. Ramesh, Dr. C. Naveen Kumar, Mr. T. Naga Teja, successfully completed a certificate course on 'Road Safety Auditing' offered by CRRI, Delhi
- ✧ Dr. C. Naveen Kumar, Associate Professor is elevated as an IEEE senior member.
- ✧ Dr. K. Ravi Kumar was sanctioned with Rs. 33,84,000 as a project fund from RESPOND Scheme, ISRO for the project titled "Estimation and Tracking of Subsurface Groundwater Discharge (SGD) along coastal stretches of Andhra Pradesh and Tamil Nadu, based on understanding (and modelling) of the coastal aquifer hydrodynamics".
- ✧ Mrs. A. Jyothirmai registered for Ph.D. in JNTU Kakinada on 26th June 2020.
- ✧ Mrs. A. Jyothirmai and Ms. R. Harika successfully completed NPTEL certificate course on Design of Reinforced Concrete Structures with ELITE recognition.

Journal / Book Reviewers:

Sl.no	Name of the faculty	Nature of Contribution	Details of associated Organization / Journal / Conference etc.
1.	Dr. A Mallika	Member of Editorial Board	i-Managers Journal in Civil Engineering, International Journal of Civil Engineering
2	Dr. Ramujee	Reviewer	i-Managers Journal in Civil Engineering
3	Dr. A Ramesh	Reviewer	Journal of The Institution of Engineers (India): Series A (IEIA), Construction Material, Materials Today: Proceedings
4	Dr. K . Ravi Kumar	Reviewer	International Journal of Environment and Waste Management,
5	Dr. Kadali Srinivas	Reviewer	Agriculture Science Research Journal
6	Dr. B. Murali Krishna	Reviewer	STRUCTURES (Elsevier), Journal of Building Construction and Planning Research, Materials Today Proceedings, Geomechanics and Engineering (Techno Press)

SOCIETAL IMPACT PROJECTS:

The following are the UG projects focused on societal impact:

- Strengthening of beam using different fabrics (Carbon, glass, basalt sheet)
- Studies on biodegradable of plastic and paper waste using metal worms

- Road accident severity analysis and prediction using machine learning techniques
- Development of intensity duration frequency curves by rainfall disaggregation
- Instrumentation for determination of thermal conductivity of geomaterials
- Study on role of moss in greenhouse gases absorption and its reaction to air pollutants

STUDENT CORNER

INDUSTRIAL VISITS:

- M.Tech. students from Highway & Structural Engineering Students visited Batch and drum Type Hot Mix Asphalt Plant**,** near Deshmukhi, Pochampally, Nalgonda on 28.08.2019
- III B.Tech Students visited **VJ Hostel Building Block - 'B'** at Bachupally on 10.08.2019 .
- III B.Tech II Sem (CE - I & II) Students visited **Cable-Stayed Bridge** constructed by M/s. Larsen & Toubro Ltd., ECC on 24th February 2020.
- Students of II B.Tech. visited PEBS-Pennar and Survey of India

II B.Tech. students visit to Survey of India

III B.Tech Students visit to VJ Hostel Building

III B.Tech Students visit to PEBS-Pennar

STUDENT ACHIVEMENTS:

- Shaik Sameed Ahmed (15071A0152) 2019 passed out student got best CE student award from ISTE Telangana chapter on 10.12.2019.
- K. Sahithi, S.Pranathi, A.Vashinavi, M. SaiCharan bagged first Prize in Modelling contest organised by IIT Madras in March 2020.
- B. Suchitra, A.Bhavana, M.,Meghana, N.Divya bagged Second prize in Modelling contest organised by IIT Madras in March 2020.
- III B. Tech C.E students Mohammed Ayaz naick (17071A0146) , K. Abhishek (17071A0150) and B. Abhilash (17071A0164) represented our Institute in Nationwide Zonal Championship conducted at E-Cell IIT Bombay.
- V. Sai Sree (16071A0157) of IV B. Tech II Sem CE 1 has secured II prize in the online quiz conducted by Civil Engineering Association of Dept. Civil Engineering, IIT madras. This online quiz is part of CEA fest scheduled on 8th March 2020.
- M.Nikhil (17071A091) of III CE-2 received the certificate of appreciation for completion of NPTEL certificate course on “Python for everyone” with 100% grade
- Sowmya, Saisree, Harsha of IV CE and Ruchira of III CE got certificate of appreciation in E-quiz on Construction Materials and Management conducted by Symbiosis, PUNE.
- P. Nikhil Kumar was a Student Ambassador for the ISB- Technology Entrepreneurship Program (2019-2020).
- Jambula Dileep received Certificate of Excellence E-Quiz on Geotechnical Engineering organized by Vardhaman College of Engineering on May 2020.
- A total of 42 students have successfully completed online certification courses through NPTEL, Coursera, Udemy etc.
- 17 Students have presented research papers in various national and international conferences
- 28 Students have attended Hackathon/ Coding Contests / Training programs

Students' participation in Tensegrity of Structures, Modelling contest at IITM

- M Ajay Raj (19071A0127) & K. Sai Krishna (19071A0187) stood as winners in Basketball Men event at ATHLEMA 2K20 organized by MVSR Engineering college on 14th & 15th February 2020.
- C. Akshitha Reddy (19071A01C0) stood as winners in Basketball Women event TECHTROPHY-2020 organized by Malla Reddy Engineering Women's college on 31st January & 1st February 2020

NAME	EVENT	EVENT TYPE	COLLEGE	DATE	POSITION
C.Akshitha Reddy 19071A01C0	Inter Engineering College State Level Tournament	Basketball Women	BVRIT	30- 31st Dec 2019	Winners
G.Hrithik 17071A0180	Inter Collegiate Tournament	Basketball Men	GITAM University	27th-28th Dec 2019	Winners
S.Yuvaraj 18071A01B2	Inter Collegiate Tournament	Basketball Men	GITAM University	27th-28th Dec 2019	Winners
D.Umesh 18071A0117	Inter Collegiate Tournament	Basketball Men	GITAM University	27th-28th Dec 2019	Winners
K. Sai Krishna 19071A0187	Inter Collegiate Tournament	Basketball Men	GITAM University	27th-28th Dec 2019	Winners

The following students were winners of Basketball event 12th Indian Open Inter Engineering Collegiate "SPORTS FEST -2020" organized by VNR VJIET on 26th & 27th January 2020.

S.No	Name	Roll Number
1.	G. Hrithik	17071A0180
2.	D. Umesh	18071A0117
3.	S. Yuvaraj	18071A01B2
4.	K. Sai Krishna	19071A0187

The following students were winners of various events like Basketball Women, Women Tennis Doubles in 12th Indian Open Inter Engineering Collegiate "SPORTS FEST -2020" organized by VNR VJIET on 26th & 27th January 2020.

S.No	Name	Roll Number	Event
1.	M. Bindu Pranavi	16071A0137	Basketball Women
2.	Karumuri Chinmayi	18071A0184	Women Tennis Doubles
3.	C. Akshitha Reddy	19071A01C0	Basketball Women
4.	A. Shirisha	19071A0101	WOMEN 800 Mts Run
5.	M. Sai Krishna	17071A0199	MEN 800 Mts Run

Basketball Men's team receiving trophy at BVRIT Fest'20

Kabaddi team receiving trophy at Malla Reddy Fest

Basketball Women's team winners

- **71 students got placed in various reputed companies.**

S.No	Name of the Company
1.	Kirby Building System & Structures India Pvt. Ltd.
2.	TCS
3.	Cognizant
4.	Accenture
5.	Capgemini
6.	INFOSYS
7.	D.E.C. Infrastructure and Projects (Inida) Private Limited
8.	Ashoka Builders Ind Pvt Ltd
9.	ACC Concrete
10.	Hyderabad MSW Energy Solutions Pvt. Ltd.
11.	Toshiba
12.	DXC Technology India Private Limited
13.	Merilytics
14.	NR Constructions
15.	Square Yards

- **24 students were pursuing their higher education in different universities in abroad and in indian universities.**

S.No	**University Name**
1.	International Institute of Information Technology
2.	Hamstech Academic Trust
3.	IMT Lille Doual University
4.	University of Cincinnati
5.	University of Windsor
6.	CQ University, Australia
7.	Southern Arkansas University
8.	University of Scranton
9.	Swinburne University of Technology
10.	IISC Banglore
11.	NIT Rourkela
12.	JNTUH College of Engineering
13.	NIT Surat

CIVIL ENGINEERING ASSOCIATION (CEA), INDIAN CONCRETE INSTITUTE (ICI) STUDENT CHAPTER & IGBC STUDENT CHAPTER

Orientation Program:

- Department of Civil Engineering has organized Orientation of ICI and IGBC Student Chapters to I B.Tech. CE Students in Dr. APJ Abdul Kalam Auditorium on 14.08.2019.

World Green Building Week:

- Department civil engineering students participated in World Green Building Congress2019 organized by IGBC, Hyderabad from 26.09.2019 to 28.09.2019.

Engineers Day:

- Department of Civil Engineering felicitated Prof. M. R. Madhav on the eve of the Engineers Day.

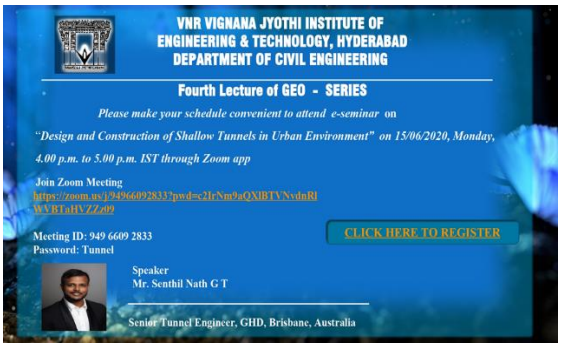
EVENTS ORGANIZED:

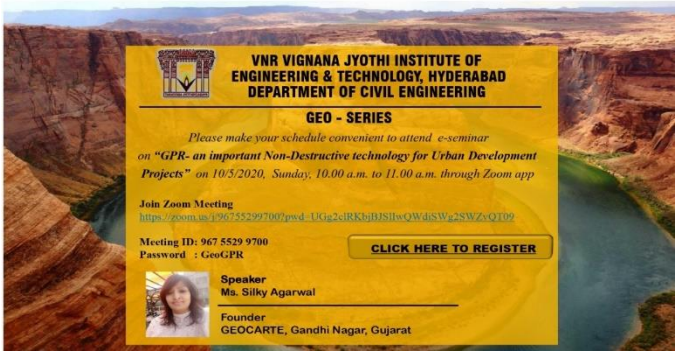
Event-1: Poster Presentation Competition as part of ICCMSSD 2020 (from 29th-31st January 2020).

Poster presentation by students

Event-2: Webinar on "Next Generation Concrete" by Er. N. Srinivasa Rao, Regional Head (Technical)-Telangana, Ultratech Cement Ltd. and General Secretary, ICI Hyderabad Centre on 15th May 2020.

Event-3: Webinar on "GPR – An important Non-Destructive Technology for Urban Development Projects" by Ms. Silky Agarwal, Founder, GEOCARTE by Ms. Silky Agarwal, Founder, GEOCARTE.





Event-4: Webinar on "Design and Construction of Shallow Tunnels in Urban Environment" by Mr. Senthil Nath G T, Senior Tunnel Engineer, GHD, Australia.

Event-5: One day Workshop on "Project Management –Project Manager's Perspective" on 21st December 2019.

DISTINGUISHED ALUMNI

- Mr. Rishi Tirupari, Vice President of Sustainability for Wynn Resorts, Macau received the Distinguished Alumni Award for the Year 2019-2020.

Mr.Rishi Tirupari Receiving Distinguished Alumni award

Environmental Sustainability in Transportation Infrastructure

Ms.R. Pranavi
Assistant Professor

Global concerns about climate change, energy use, environmental impacts, and limits to financial resources for transportation infrastructure require new and different approaches to planning, designing, constructing, operating, and maintaining transportation solutions and systems. Therefore, environmental sustainability in transportation infrastructure comes into existence.

What is sustainability?

Sustainability is a big concept – like "justice" or "freedom" – and like these concepts, it can be easier to understand than to succinctly define. One oft-quoted definition states that sustainable development "meets the needs of the present without compromising the ability of future generations to meet their own needs." (United Nations World Commission on Environment and Development (Brundtland Commission) Report – Our Common Future, 1987).

Sustainability can also be defined as:

• An overarching conceptual framework that describes a desirable, healthy, and dynamic balance between human and natural systems.
• A system of policies, beliefs, and best practices that will protect the diversity and richness of the planet's ecosystems, foster economic vitality and opportunity, and create a high quality of life for people.

Figure 1. Triple Bottom Line of Sustainability

Central to these definitions is sustainability's applicability to three elements of life: economic or financial considerations, environmental protection and stewardship, and community and individual human well-being — the triple bottom line of sustainability.

Definition of Sustainable Transportation

Sustainable transport refers to the broad subject of transport that is sustainable in the senses of social, environmental and climate impacts for evaluating sustainability for vehicles used for road, water or air transport. Transportation sustainability is largely being measured by effectiveness and efficiency as well as the environmental and climate impacts of the transportation system making a positive contribution to the environmental, social and economic sustainability.

Transport systems are major emitters of greenhouse gases, responsible for 23% of world energy-related GHG emissions in 2004, with about three quarters coming from road vehicles. Currently 95% of transport energy comes from petroleum. Energy is consumed in the manufacture as well as the use of vehicles, and is embodied in transport infrastructure including roads, bridges and railways.

A Two-Step Framework

Several frameworks can be applied to understanding transportation in the context of sustainability.

Step 1 of the Two-Step Transportation and Sustainability Framework is to consider the full range of demand management, system efficiency, and infrastructure capacity solutions that can be considered or addressing mobility needs. In Figure 2, transportation solution categories and the level of time, environmental impacts, capital costs, and institutional requirements are illustrated. Solutions toward the far left will sometimes enable greater sustainability benefits, due to the lesser impact to natural resources and construction costs.

Step 2 of the Two-Step Transportation and Sustainability Framework comes into play when a transportation agency decides that a transportation problem is best addressed through the construction of new infrastructure. Step 2 frames projects in more sustainable ways by aligning projects to five broad objectives: Reduce Energy Consumption, Reduce Consumption of Material Resources, Reduce Impacts to Environmental Resources, Support Vibrant Urban Communities, and Support Sustainability During Implementation.

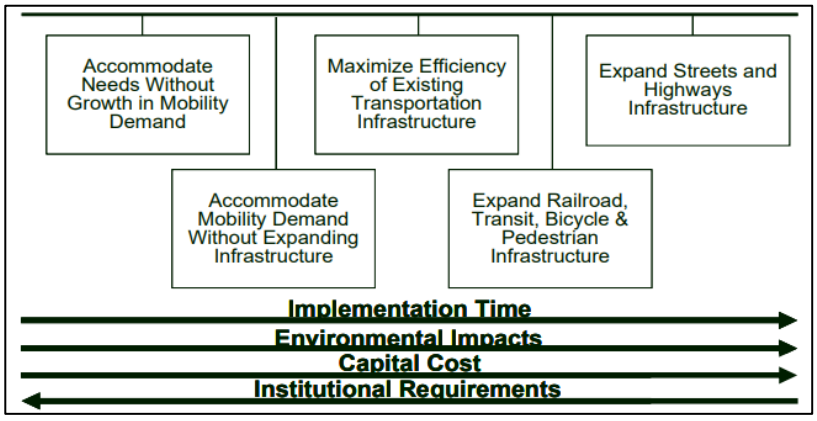


Figure 2. Step 1 of the Two-Step Transportation and Sustainability Framework

Best Practices – Transportation and Sustainability

A basic understanding of best practices is critical to facilitate both discipline-focused and interdisciplinary discussion of sustainability issues facing the nation's transportation system. Following best practices:

(1) Planning and System-wide Perspective,

(2) Design and Construction,

(3) Operations and Maintenance, and

(4) Performance Measures.

Transportation's mission is no longer about just moving people and goods. It's much broader. Transportation fundamentally allows us to achieve economic, social, and environmental sustainability. Transportation supports and enhances our quality of life. As state transportation professionals, we need to model the way toward achieving a sustainable future…Sustainable transportation requires innovative approaches and partnerships like never before. (2009 AASHTO Emphasis Areas)

References

- Bevan, Timothy A., Donna L. Day, Robin Senner, and Sam Seskin. 2008. Planning for Sustainability: Planning for Sustainable Transportation Infrastructure. Canadian Institute of Transportation Engineers.
- Centre for Environmental Excellence by the American Association of State Highway and Transportation Officials (AASHTO). 2009. Sustainability Recent Developments.
- Centre for Environmental Excellence by AASHTO. 2009. Transportation and Sustainability Best Practices Background.

TRANSPARENT CONCRETE

Dr. G.Lalitha
Assistant Professor

The transparent concrete mainly focuses on transparency and its objective of application pertains to green technology and artistic finish. It is the "combination of optical fibers and fine concrete". At present, green structures focus greatly on saving energy with indoor thermal systems. Therefore it is imperative to develop a new functional material to satisfy the structure in terms of safety monitoring (such as damage detection, fire warning), environmental protection and energy saving and artistic modeling.

Optical fibers passes as much light when tiny slits are placed directly on top of each other as when they are staggered. It is because optical fibers in the concrete act like the slits and carry the light across throughout the concrete. Thousands of optical glass fibers form a matrix and run parallel to each other between the two main surfaces of each block. The fibers mingle in the concrete because of their insignificant size and they become a structural component as a kind of modest aggregate. The blocks can be produced in various sizes and with embedded heat- isolation.

It can be produced as prefabricated building blocks and panels. Due to the small size of the fibers, they blend into concrete becoming a component of the material like small pieces of aggregate.

The glass fibers lead light by points between the two sides of the blocks. Because of their parallel position, the light-information on the brighter side of such a wall appears unchanged on the darker side. The most interesting form of this phenomenon is probably the sharp display of shadows on the opposing side of the wall. Moreover, the color of the light also remains the same.

Concreting: In the process of making light transmitting concrete, the first step involved is preparation of mould. The mould required for the prototype can be made with different materials, which can be of either tin or wood. Plates made of sheets which are used in electrical switch boards is used which will be helpful in making perforations and give a smooth texture to the mould, holes are drilled in to the plates. The diameter of the holes and number of holes mainly depends on percentage of fiber used.

The thoroughly mixed concrete is poured carefully and slowly without causing much disturbances to the previously laid optical fibers. The concrete is filled in smaller or thinner layers and is agitated with the help of vibrating tables to avoid the void formation

Fig:1 Mould preparation

Fig:2 Concreting

Cutting and Polishing:

Cut the extra-long fibers same as thickness of panel. Polish the panel surface by using polishing paper or using sand paper

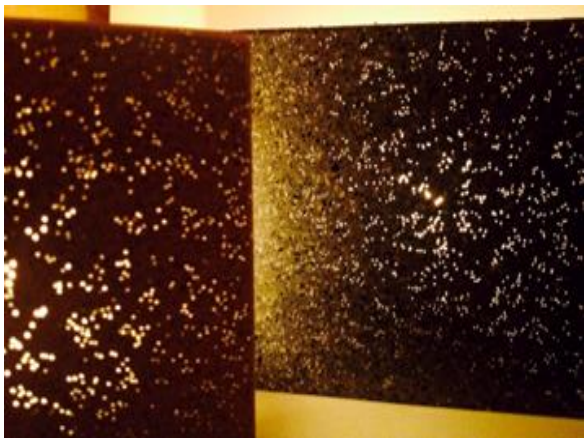


Fig:3 Final Transparent Concrete

References:

Various internet sources are acknowledged and my students who helped a lot in this project

SELF CURING CONCRETE

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Dr.G.Lalitha

1. Introduction

After water, concrete is the most using material globally. Without concrete, the world is unimaginable. The foundation of civilization is concrete. Cement, fine aggregate, coarse aggregate, and water are the main ingredients in concrete, which requires curing to attain its strength. Concrete must therefore cure for 28 days in order to complete the necessary hydration, desired strength. Self-curing concrete is an example of contemporary concrete that dries on its own due to water retention. POLYETHYLENE GLYCOL is added to the concrete as an admixture to give the self-curing capabilities. This improves the concrete's hydration and, in turn, increases its strength. In this study, the individual effects of varying percentages of admixture composition on mechanical properties such as compression resistance, split tensile strength, and strength in flexure are studied. The research was carried out showing maximum strength values at 1.5% of POLYETHYLENE GLYCOL addition.

The strength and durability of concrete in Civil Engineering constructions are significantly influenced by curing. Polyethylene Glycol, a super absorbent chemical component, is typically used to provide extra internal water to concrete without changing the w/c ratio. Early-age cracking may occur if this water is not provided appropriately because chemical shrinkage occurs during cement hydration. Early in the curing process, moisture content and temperature must be maintained so that the concrete's properties can improve. In comparison to traditional concrete, polyethylene glycol helps reduce water loss from concrete while also improving water preservation.

In the current investigation, split tensile strength and compression resistant strength are measured in order to determine the effect of different amounts of admixture polyethylene glycol (PEG-600).Self-curing in concrete refers to the technique of continuously supplying water to the concrete so that it can utilize the heat released during the hydration process and stop the evaporation of water molecules within the mass of concrete.

Therefore, if curing is not done, shrinkage and the development of microcracks in concrete takes place as a result of the concrete's reduction of water molecules. Concrete only interacts with other concrete on its surface during the curing process; it does not interact with other concrete inside the mass.

Therefore, Paul Klinger developed the improved technology for curing concrete, known as the SELF CURING CONCRETE idea, in the US in 1957. This concept allows for internal curing of concrete.

1.1Super absorbent polymer:

These hydrophilic polymers were created using chemical synthesis. These chemical polymers are utilized, as their name implies, to absorb water in the form of inclusion. Water-loving or enticing is what the word hydrophilic refers to.

The hydrophilic polymers essentially consist of two parts: one is an organic carbon portion that is hydrophobic, and the other is an inorganic part that aids in the attachment of water molecules to the polymer. The examples of Super absorbent polymers are Glycerin, Polyethylene Glycol, Poly oxyethylene etc.

1.2 Mechanism of internal curing:

From the concrete surface, the evaporation of moisture takes place continuously due to the variation in the chemical potential, free energy space between the liquid and vapor phase. At the time of mixing the polymers are added in concrete which mainly from hydrogen bond between the water molecules and helps to reduce the chemical potential of the molecules due to this the vapor pressure reduces and the rate of evaporation from the exterior surface reduced.

2. Materials used:

In addition to concreting materials PEG 600(Poly Ethylene Glycol) was Used.

2.1 Experimental procedure:

The concrete grade taken for research is M25. The experiment was set up so that different percentages of Poly Ethylene Glycol 600, such as 0.5 percent to 2 percent by weight of cement, were added to evaluate the mechanical characteristics.

Studying Self-Curing Concrete's compression resistance, split tensile strength, and strength in flexure are the motto of the experimental process. The Compressive Strength, Split Tensile Strength, and Flexural Strength of the concrete mix with various amounts of PEG 600 were tested using cubes, cylinders, and prisms, respectively.

Fig: 1 Concreting of Self Curing concrete

2.2 Conclusions from the work

From the tests performed, it is concluded that:

1. PEG600 gives the self-curing properties to concrete by which it can cure itself without any external supply of water for the curing process.
2. Durability and workability of the concrete are enhanced by the use of self-curing admixtures.

3. Mostly in all the cases, the strength of self-curing concrete is higher than conventional concrete with the same mix design.
4. It is also possible to say that increasing the use of this admixture may result in lower concrete strength measurements.
5. This study's findings demonstrate that the strength values grow up to 0.5% to 1.5% and begin to decline at 2% admixture addition.
6. Self-curing concrete used in desert regions as well as where the shortage of water is a major problem.

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Construction of new Secretariat for the state of Telangana, Hyderabad

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19071A0188

INTRODUCTION:

- The new Telangana Secretariat buildingwill be the tallest structure -278ft,dwarfing several historic monuments in the country.
- The land area is 25.5acres, building area being 8 acres with built up area 7 lakh square feet.
- The contractor for the project is Shapoorji and Pallonji, architect being Oscar and Ponni from Chennai, structural consultant SHPL (QC lab testing),PT agency Ultracon.
- The main objective of the construction is to accommodate 17 ministries related to the government in a single building for administrative efficiency.
-

PROJECT DETAILS:

- The height of the structure is 114 ft from MSL (Mean Sea Level)
- Number. of blocks are: B1, B2, B3,B4,B5,B6 six(6) in total
- Number. of floors: Lower ground, Ground,1,2,3,4,5,6(8 in total)
- Number. Of ministries:17
- Number. of staircases:10
- Number. of lifts:24
- Number. of domes:34.

STRUCTURAL DETAILS:

PT BEAMS (POST TENSION) have been used in this project: Length of the post tension beams is 24m (metres).

The use of post tension beams is the highlight of this humongous project.PT slabs offer the thinnest slab type, as concrete is worked to its strengths, mostly being kept in compression. Longer spans can be achieved due to prestress, which can also be used to counteract deflections.

Post-tensioned slabs use high-strength tensioned steel strands to compress the slabs, keeping most of the concrete in compression. This gives a very efficient structure which minimizes material usages and decreases the economic span range when compared to reinforced concrete.

PT systems provide active reinforcement. The function of post-tensioning is to place the concrete structure under compression in those regions where load causes tensile stress. Post-tensioning applies a compressive stress on the material, which offsets the tensile stress the concrete might face under loading.

- **TILES**: double charged vitrified tiles of 2-3 mm are used. These tiles prevent the accumulation of dirt and dust on the surface. They are extremely durable. Their surface is resistant to scratches and stains.

CORRIDORS: 12ft width cantilever beam is used,16ft corridor is provided for the floor of Chief Minister. Cantilever beam is simple in constructions. It does not require a support on the opposite side. Cantilevered structure generates a negative bending moment which counteracts positive bending moment of back-spans hence used in heavy constructions such as this project.

RED SANDSTONE: it is used for cladding purpose which is imported from Rajasthan. Cladding: Cladding is the application of one material over another to provide a skin or layer. In construction, cladding is used to provide a degree of thermal insulation and weather resistance, and to improve the appearance of buildings.

- **EMBLEM** is erected on the top which is of 52ft diameter. An emblem is going to be erected on the top of the structure. The diameter of the emblem is 52 ft. The height and the design is yet to be finalised. The erection of the emblem on the top symbolises patriotic nature of the executors of the project.

DESIGN DETAILS:

- **COLUMNS**

  The height of the circular columns is of 17m.They are coated with glass reinforced concrete. Glass fibre reinforced concrete is a type of fibre-reinforced concrete. The product is also known as glass fibre reinforced concrete or GRC. Glass fibre concretes are mainly used in exterior building façade panels and as architectural precast concrete. There is no exact structural requirement of the column.

- **DOMES**

  34 domes are erected on the top of the structure. There is one dome for every 6 m span of PT slab. These domes are purely of architectural purpose inspired from Mughal architecture and the High Court of Telangana. The structure is designed in such a way that the loads from the 34 domes is safely distributed. The below attached photo is the design of the domes, adjacent one being the High court of Telangana.

SOLID BLOCKS

The shear walls are constructed with AAC blocks (Autoclave Aerated concrete).The blocks handle fire better than traditional blocks. These blocks are up to 3 times lighter in weight than traditional clay or cement blocks. Individual blocks are much larger in size than clay bricks. As a result, the structure completion happens faster Dimensions of the bricks used are 400*200*200 mm. The total width of the shear wall is 600 mm.

ARCHITECTURAL EXCELLENCE

RED SANDSTONE is used for outer walls. The use of red sandstone for outer walls has increased the look of the building to a great extent mimicking the Red fort of New Delhi.

DOMES are inspired from historic buildings of Hyderabad such as the High Court of Telangana and other structures.

DISCUSSIONS:

Though the project is highly delayed in terms of time resulting in cost escalation, the architectural excellence is to be noted. The workers are highly motivated to complete this ambitious project by working 24/7 in shifts. The estimated completion date of the project is December 2022 as per the engineers on site. Investment of a huge sum of 650 crore on an infrastructure project by dismantling the previous building in the times of covid 19 is being widely criticized by experts.

CONCLUSION:

The structural excellence such as the use of post tension beams and the architectural excellence such as domes, circular columns, use of red sandstone for cladding,erecton of national emblem on the top are the novel practices used in this project.

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"Intelligence is the ability to adapt change

- Stephan Hawking

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