



Soil conservation

Nor waste neither plunder, Nurture soil

CIVIL ENGINEERING DEPARTMENT NEWS LETTER

2021-2022 | JANUARY – JUNE 2022 |

HOD s Message:



This newsletter published for the year 2021-22 is dedicated entirely to the conservation practices of soil Sustainability. Especially soil conservation practices in line with your ancestors particularly crop culture to save soil other infrastructure projects. Current edition is entirely dedicated to the ideas that Inspire soil erosion



To enrich the society through Civil Engineering education for socio-economic development and welfare of the people.



DEPARTMENT VISION

"An integrated development of Civil Engineering Professionals with technological knowledge and managerial skills; possessing environmental, ethical and human values".



DEPARTMENT MISSION

Program Educational Objectives

Upon graduation, students of the program will:

I. To provide basic scientific training to the students so as to solve Civil Engineering problems with scientific outlook rather than mere continuation of traditional practices.

II. To provide training in basic engineering sciences so that students apply the concepts of basic engineering sciences to the solution of Civil Engineering problems.

III. To train the students in the broad areas of Civil Engineering and inter-disciplinary areas.

IV. To mould the students professionally competent with managerial and communication skills.

V. To train the students to mitigate natural /environmental disasters and to inculcate professional ethics and human values.

Program Outcomes

Graduates will have an ability to apply the knowledge of basic sciences like Physics, Mathematics and Chemistry for the solution of Civil Engineering Problems.

Graduates will have sound knowledge in basic engineering sciences like Engineering Mechanics, Solid Mechanics, Fluid Mechanics to solve Civil Engineering problems.

Graduates will have generalized knowledge in Civil Engineering and inter-disciplinary knowledge to design and execute Civil Engineering Projects.

Graduates will have an ability to design and conduct experiments as well as to analyse and interpret data.

Graduates will have an ability to demonstrate knowledge and understanding of engineering and management principles and apply these principles in their profession.

Graduates will have an ability to identify, formulate and solve engineering problems.

Graduates will have requisite knowledge to pursue Post-graduate / Research Programmes and for life-long learning.

Graduates will have computational and drafting skills.

Graduates will be professionally competent with managerial and communication skills.

Graduates mitigate environmental problems and natural disasters like earthquakes, cyclones and floods.

Graduates perform professional duties with environmental, ethical and human values.

Graduates will have broad education necessary to understand the impact of Civil Engineering solutions in global societal context.

Look on soil nurture practices



Nurture practices of soil -regunvate land it is prcious

Strip cropping



It alternates strips of closely planted crops like hay, wheat, or other small grains with strips of row crops like maize, soybeans, cotton, or sugar beets. Strip cropping helps to prevent soil erosion by providing natural dams for water, thus preserving soil strength. Certain plant layers absorb minerals and water from the soil more efficiently than others. When water hits the weaker soil, which lacks the minerals required to strengthen it, it usually washes it away. When strips of soil are strong enough to restrict the flow of water through them, the

weaker topsoil cannot wash away as easily as it would ordinarily. As a result, arable land remains fertile for much longer.

Windbreaks



Windbreaks are an excellent approach for conservation of soil and reducing soil erosion in flat farming settings. This is made easier by planting rows of dense trees between the crops evergreens are a wonderful year round solution for this or by planting crops in an unconventional fashion. Deciduous trees may also function if they can stand vigil all year.

Department foot steps towards nurturing soil.

Guest Lectures Delivered by Faculty

- B. Kesava Rao, ‘Computational Mechanics’, Department of Civil Engineering, Malla Reddy Engineering College, Maissammaguda, Hyderabad, March 13, 2021.
- M. Rama Rao, ‘Geotechnical engineering using mind map’, Indian Geotechnical Society SVNIT student chapter, in association with Indian Geotechnical Society Surat chapter, April 25, 2021.
- M. Rama Rao, ‘Geotechnical investigations in civil engineering’, Vishwavidyalaya Engg. College, Lakhanpur Ambikapur, Surguja, Chhattisgarh, April , 26–30, 2021
- M. Rama Rao, ‘Mind map using iMindmap software’, RVR&JC College of Engineering, Chowdavaram, Guntur, May 05, 2021.

*Small contribution by department to nurture
scis. Internal*

Research Projects in Progress

Internal Research Projects in Progress

M. Srikanth Kumar and P.V.S. Maruthi Krishna were sanctioned Rs. 40,000/- for their research project proposal on 'Removal of dyes from textile waste water by water hyacinth: batch and column studies'.

B. Krishna Chaitanya and M.L.N. Krishna Sai were sanctioned Rs. 40,000/- for their research project on 'Study on flow properties of fiber-reinforced self-compacting concrete'.

Industrial Research Projects in Progress

- B. KesavaRao and S. V. Satyanarayana were sanctioned an amount of Rs.5,00,000/- by Vriddhi infra tech India private limited for an industrial research project on 'Experimental

analysis of sub and super structure embedded in cohesive and cohesionless soil’.

- N. VenkataSairam Kumar, R.Vaishnava Kumar were sanctioned an amount of Rs.4,00,000/- by Virinchi infra (India) private limited for an industrial research project on ‘Design and development of chloride resistant concrete’.

- B. Krishna Chaitanya and M.L.N. Krishna Sai were sanctioned an amount of Rs.3,00,000/- by Design tribe (India) private limited for an industrial research project on ‘Design and analysis of a high rise building with different plan configurations using ETABS software’.

- P. SamathaChowdary and G. Sanijay were sanctioned an amount of Rs.3,00,000/- by Design tribe (India) private limited for an industrial research project on ‘Condition assessment of existing road network in rural area of Amaravati region constructed on expansive soil’.

Patent Published

- N. VenkataSairam Kumar, K. S. Sai Ram, M. Rama Rao, A. Srinivasa Prasad, R. SurendraBabu, M. L. N. Krishna Sai, S. V. Satyanarayana, R. Vaishnava Kumar, B. Krishna Chaitanya, Y. Madhavi, ‘Method for

Compressive Strength Determination of Crushed Rock Concrete' Application No.202041057020, Jan. 1, 2021.

Awards/Appreciation

- B. KesavaRao (LM 1762), was elected as Secretary for Indian Society for Earthquake Technology (ISET), Guntur Chapter Committee elections, for the term 2021–23, held on Feb. 21, 2021.
- B. KesavaRao, Chaired a Session in the First National Virtual Conference on Sustainable Innovative Trends in Civil Engineering (SITCE-2021) organized by VignanBharathi Institute of Technology during Feb. 5–6, 2021
- B. Krishna Chaitanya and N. VenkataSairam Kumar received appreciation for being a 'Reviewer and Member of Scientific Committee" of 2nd International Conference on Aspects of Materials Science and Engineering (ICAMSE-2021) organized by Punjab University Chandigarh, Hyatt Regency, Chandigarh, India, Mar. 5–6, 2021.

Student Activities/Chapters

- Indian Geotechnical Society (IGS) Student Chapter of Civil Engg. Dept.conducted the following webinar lecture:
 - o Webinar lecture ‘Air pollution, climate change and policy action’ Prof.Vinod Thomas, Special Adviser to the President and Dean of Asian Institute of Management, Manila and Visiting Professor at National University of Singapore, January 17, 2021.

Research Paper Publications

- A.Prakash, A.N.Swaminathen, A.Ramu, B.KrishnaChaitanya, ‘Assessment of strength and durability parameters for concrete with partial replacement of coarse aggregates by iron slag and glass powder as an additive’ IOP Conference Series: Materials Science and Engineering Vol.1126, March-2020. <https://doi.org/10.1088/1757-899X/1126/1/012082> (Scopus Indexed)
- B. KesavaRao, R. Chandramohan, G. Sanijya, Y. Naga Mahesh, ‘Shear walls induced reinforced concrete structures’ Turkish Journal of Computer and mathematics Education, Vol.12 (2), 1827–1834, 2021. (Scopus Indexed)
- B. YellamandaRao, Y. Naga Mahesh, A. Naga Sai, B. KesavaRao, G. Naga Venkat, ‘Study on mechanical

properties of concrete by fractional replacement of cement with metakaolin and sand with m-sand by using M30 grade’, Turkish Journal of Computer and Mathematics Education, Vol.12 (2), 1835–1840, 2021. (Scopus Indexed)

- D. EaswarKarthik, Sk. Md. Arifullah, Y Madhavi, ‘Micro structural examination of low-density light weight concrete based on expanded polypropylene foam’, Materials Today: Proceedings, Apr. 2021. <https://doi.org/10.1016/j.matpr.2020.11.564> (Scopus Indexed)
- K. Leela Krishna, A. Srinivasa Prasad, ‘Best compromised reservoir operating policy under uncertain inflows by fuzzy linear programming’ Ecology, Environment and Conservation, Vol. 27 (2), 650–655, 2021. (ISSN: 0971–765X, Scopus Indexed)
- L. N. K. SaiMadupu, N. V. Sairam Kumar, B. Krishna Chaithanya, R. Vaishnav Kumar, ‘Evaluation of mechanical and flow properties of crimped steel fiber in self-compacting concrete’ Materials Today: Proceedings, Vol.45, 4835–4840, 2021. (Scopus indexed). <https://doi.org/10.1016/j.matpr.2021.01.296>. (Scopus Indexed)
- Syed NizamuddinKhadri, B. Krishna Chaitanya, Ch. Bala Rama Krishna, K.J. N. SaiNitesh, ‘Analysis of structure on slopes infill shear wall at different locations’, Materials Today: Proceedings, 2021. <https://doi.org/10.1016/j.matpr.2020.12.1146>. (Scopus Indexed)
- U. V. NarayanaRao, N. VenkataSairam Kumar, ‘Palm oil fuel ash as partial substitute to cement in concrete:

Performance at elevated temperatures’, IOP Conference Series: Materials Science and Engineering, Vol. 1136, March-2020. <https://doi.org/10.1088/1757-899X/1136/1/012058> (Scopus; Web of Science Indexed).

Paper Presentations in Conferences

- B. KesavaRao, I. Yasasswi, ‘Response spectrum-based pushover analysis for predicting earthquake induced forces in buildings’, National Conference on Sustainable Innovative Trends in Civil Engineering, VignanaBharathi Institute of Technology (A), Ghatkesar, Hyderabad, Feb. 05–06, 2021.
- L. N. K. SaiMadupu, N. V. Sairam Kumar, B. Krishna Chaithanya, R. Vaishnav Kumar ‘Evaluation of mechanical and flow properties of crimped steel fiber in self-compacting concrete’, International Conference on Aspects of Materials science and Engineering, Punjab University, Chandigarh, Mar. 05–06, 2021.
- N. VenkataSairam Kumar, ‘Palm oil fuel ash as partial substitute to cement in concrete: Performance at elevated temperatures’, International Conference on Advances in Materials, Mechanics, Mechatronics and Manufacturing, Yajurvedam, Gwalior, Madhya Pradesh, March 06–07, 2021.
- R. Chandramohan, B. KesavaRao, ‘Mapping groundwater potential zone of fractured layers using electric resistivity method and GIS techniques’, International Conference on Advances in Construction

Technology and Management, College of Engineering, Pune, Mar. 11–12, 2021.

- A. Krishna GnanaPrasuna, N. VenkataSairam Kumar, ‘Flexural strength of concrete containing palm oil fuel ash as partial substitute of cement in concrete: Performance at elevated temperatures’, 3rd International Conference on Advances in Civil Engineering, Department of Civil Engineering, KL (Deemed to be) University, Vijayawada, June 25–26, 2021.
- L. N. K. SaiMadupu, J. Rohan Reddy, ‘Experimental study of flexural strength properties of R.C beams strengthened and repaired with FRP’, 3rd International Conference on Advances in Civil Engineering, K.L (Deemed to be) University, Vaddeswaram, June 25–26, 2021
- V. Bhavana, N. VenkataSairam Kumar, ‘Mathematical modeling of crushed rock dust concrete: Performance using compressive strength’, 3rd International Conference on Advances in Civil Engineering, Department of Civil Engineering, KL (Deemed to be) University, Vijayawada, June 25–26, 2021.
- L. N. K. SaiMadupu, J. Vijendra, ‘The flow properties of SCC with marble waste powder as a partial substitute for cement’, International Conference on Sustainable Approach for Resilient Infrastructure, C.B.I.T, Hyderabad, June 26–27, 2021.
- L. N. K. SaiMadupu, O. Ankammaraju, ‘To study on properties of concrete having aloevera and marble waste powder as a cement replacement’, International

- Conference on Sustainable Approach for Resilient Infrastructure, C.B.I.T, Hyderabad, June 26–27, 2021.
- AkulaPrakash, A. N. Swaminathen, AkojuRamu, B. Krishna Chaitanya, ‘Assessment of strength and durability parameters for concrete with partial replacement of coarse aggregates by iron slag and glass powder as an additive’, 3rd International Conference on Trends in Material Science and Inventive Materials, Coimbatore, Mar. 12–13, 2021.
 - K. Leela Krishna, A. Srinivasa Prasad, ‘Fuzzy logic modelling of reservoir operation – A case study’ 3rd International Conference Design, Construction and Management in Civil Engineering, PSG Institute of Technology and Applied Research, Coimbatore, Tamilnadu, April 23–24, 2021.

Knowledge enrichment programmes attended by department faculty to learn the ways to properly nurture soil

Conferences/ Workshops/ Attended

- R. Chandramohan, AICTE Training and Learning (ATAL) Academy one week FDP, ‘GIS and Remote Sensing’, University College of Engineering, JNTU Kakinada, Jan. 04–08, 2021.
- N. VenkataSairam Kumar, AICTE sponsored one-week online STTP (Phase-I), ‘Utilization of

E-waste in construction industry’, Department of Civil Engineering, Dr.N.G.P. IT, Coimbatore, Jan. 18–23, 2021.

- N. VenkataSairam Kumar, online seminar, ‘Sustainable Development in Civil Engineering Systems-Advances and Challenges’, Department of Civil Engineering, Thapar Institute of Engineering and Technology, Patiala, Jan. 26–30, 2021.
- G. Susmitha, two-week online AICTE Quality Improvement Scheme (AQIS) FDP, ‘Shallow & deep foundation’, Department of Civil Engineering, Andhra University College of Engineering, Visakhapatnam, Jan. 25–Feb. 06, 2021.
- N. VenkataSairam Kumar, AICTE sponsored online QIP-STTP, ‘Opportunities and challenges in sustainable construction practices’, Department of Architecture, Planning and Design and Department of Civil Engineering, IIT-BHU, Varanasi, Feb. 01–06, 2021.
- N. VenkataSairam Kumar, Webinar, ‘Special concretes for 21st century-A research perspective and performance of ultra-high-performance concrete’, Department of Civil Engineering, Lakireddy Bali Reddy College of Engineering, Mylavaram, Feb. 07, 2021.

- G. Sanijya, one week FDP, ‘Role of transportation engineers towards sustainable roads and traffic safety’, Department of Civil Engineering in association with Indian concrete Institute, Shri Vishnu Engineering College for Women(A), Vishnupur, Bhimavaram, Feb. 22–27, 2021.
- G. Susmitha, one-week online FDP, ‘Innovations in civil engineering’, Department of Civil Engineering, Gudlavalleru Engineering College, March 22–27, 2021.
- A. Naga Sai, online International Webinar, ‘Geopolymer Concrete’, SRM University in association with India Concrete Institute (ICI), Ramapuram, April 09, 2021.
- G. Susmitha, one-day webinar, ‘Recent trends in geotechnical engineering for infrastructure development’, Department of Civil Engineering in association with IGS Tirupati chapter & IIT Tirupati at SV University College of Engg, April 24, 2021.
- G. Susmitha, five-day AICTE online STTP ‘Geotechnical investigations in civil engineering’, Department of Civil Engineering, Chattisgarh Swami Vivekanand Technical University, Bhilai, April 26–30, 2021.
- A. Naga Sai, G. Nagavenkat, Y. Naga Mahesh, one-day National Webinar, ‘Effective

environmental management & governance thro legal regime in India', Department of Civil Engineering, MVR College of Engineering & Technology, Vijayawada, Andhra Pradesh, May 11, 2021.

- Y. Naga Mahesh, B. YellamandaRao, one-week online FDP, 'Innovative technology in civil engineering', Department of Civil Engineering, Easwari Engineering College, Chennai, May 12–19, 2021.
- Y. Naga Mahesh, B. YellamandaRao, one-day International Webinar, 'Infrastructure development and opportunities for engineering graduates', Jaypee University of Engineering & Technology, Guna, May 22, 2021.
- A. Naga Sai, B. KesavaRao, B. YellamandaRao, G. Nagavenkat, G. Sanijya, J. UshaKranti, Y. Naga Mahesh, five-day online FDP, 'Recent research trends in civil engineering', National Institute of Technology, Puducherry, May 24–28, 2021.
- R. Chandramohan, one week FDP, 'Basics to profiency level – hands on approach on innovative GIS technics', Department of Civil Engineering, St. peter's Engineering College, Hyderabad, May 24–29, 2021.
- A. Naga Sai, G. Nagavenkat, N. VenkataSairam Kumar, one-week Online FDP, 'Building

information modelling (BIM) using REVIT Architecture’, KL University in association with APSSDC, Guntur, May 24–29, 2021.

- B. Krishna Chaitanya, online Five Day FDP ‘Soft Computing Techniques in Civil Engineering’, Department of Civil Engineering, Malla Reddy Engineering College(A) Main Campus, May 27–31, 2021.
- B. YellamandaRao, G. Nagavenkat, Y. Naga Mahesh, one-day workshop, ‘Recent advancements in civil engineering’, Green Club, Department of Civil Engineering, Amrita College of Engineering & Technology, Nagercoil, Tamilnadu, May 31, 2021.
- A. Naga Sai, G. Nagavenkat, G. Sanijya, Y. Naga Mahesh, three-day FDP ‘Civil engineering and allied specialization’, Department of Civil Engineering at Vignan Institute of Technology and Science, Hyderabad, May 31–June 02, 2021.
- M. Srikanth Kumar, ATAL Academy online elementary FDP, ‘Green buildings & built environment’, Confederation of Indian Industry, May 31–June 04, 2021.
- N. VenkataSairam Kumar, one-week online AICTE STTP, ‘Repair, rehabilitation & retrofitting techniques of reinforced concrete structures’, Department of Civil Engineering,

SrinivasaRamanujan Institute of Technology,
Ananthapuram, May 31–June 05, 2021.

- B. YellamandaRao, three-day Webinar, ‘World Ocean Day’, Department of Civil Engineering, Easwari Engineering College, June 07–09, 2021.
- G. Susmitha, N. VenkataSairam Kumar, five-day AICTE online elementary FDP on ‘Trail blazing practices in geotechnical engineering’, Department of Civil Engineering, MeenakshiSundararajan Engineering College, June 07–11, 2021.
- B. Krishna Chaitanya, ATAL Academy online Elementary FDP, ‘Earthquake resistant structural systems and design for buildings and structures’, Sri Venkateswara College of Engineering, June 07–11, 2021.
- A. Naga Sai, B. YellamandaRao, one week FDP ‘Advanced applications of structural concrete in civil engineering’, Department of Civil Engineering, K.L Deemed to be University, June 07–12, 2021.
- N. VenkataSairam Kumar, online training programme, ‘Futuristic research in disaster resilience’, National Institute of Disaster Management, Ministry of Home Affairs, Government of India in collaboration with Department of Civil Engineering,

Vidyavardhaka College of Engineering, Mysuru, June 11–13, 2021.

- N. VenkataSairam Kumar, ATAL academy FDP, ‘Sustainable practices in civil engineering’, Department of Civil Engineering, Bangalore University, June 14–18, 2021.
- A. Naga Sai, B. YellamandaRao, G. Nagavenkat, Y. Naga Mahesh, five-day STTP, ‘Field practices in geotechnical engineering’, SRM Institute of Science & Technology & IGS Student Chapter, Kattankulathur, June 14–18, 2021.
- M. Srikanth Kumar, P. V. S. Maruthi Krishna, ATAL Academy Online Elementary FDP, ‘Green technology and sustainable development’, Amity University Rajasthan, Jaipur, June 14–18, 2021.
- G. Nagavenkat, G. Sanijya one week FDP ‘Thrust area of research in civil engineering (phase- II)’, Department of Civil Engineering, Dr. N. G. P. Institute of Technology, Coimbatore, in association with Indian Concrete Institute, Coimbatore Centre and Indian Geotechnical Society, Coimbatore, June 14–19, 2021
- R. Chandramohan, ATAL Academy one week FDP, ‘Life skills management – road – leadership & excellence’, GITAM Deemed to be University, June 21–25, 2021.

- N. VenkataSairam Kumar, 5-day FDP, ‘Bridge engineering’, Department of Civil Engineering, KPRIET, Coimbatore, June 21–25, 2021.
- G. Sanijya, one week FDP ‘Recent advancements on geotechnical and transportation engineering’, Department of Civil Engineering, Gudlavalleru Engineering College (A), June 21–25, 2021.
- L.N.K.SaiMadupu, AICTE sponsored one-week online STTP, ‘Repair, rehabilitation and retrofitting techniques of reinforced concrete structures phase-III’, Department of Civil Engineering, SrinivasaRamanujan Institute of Technology, Ananthapuramu, June 28–July 03, 2021.
- N. Tejaswini, one week online FDP, ‘Recent trends in concrete technology’, AnnasahebDange College of Engineering and Technology, Uranislampur, Ashta, Maharashtra, July 05–09, 2021.
- B. KesavaRao, 7th International Conference, ‘Recent advances in geotechnical earthquake engineering and soil dynamics, Indian Society of Earthquake Technology, Department of Civil Engineering, IISc Bengaluru, Department of Earthquake Engineering, IIT Roorkee, July 12–15, 2021.

*A look on soil nurture practices
-simple yet effective*

Buffer strips



Buffer strips are permanently vegetated zones that safeguard water quality between a canal and a farm field. Buffer strips aid in soil retention by slowing and sifting storm flow. Buffers aid in the retention of soils and can also be used to grow plants that can be gathered and used as animal feed. Buffers exist in a variety of shapes and sizes

Terrace



Terrace farming is an efficient and, in many cases, the only solution for hilly farmlands. Terraces are a fantastic water and soil conservation structure to use if you have sloping fields in your operation to decrease erosion and conserve moisture on steep slopes. Terraces play a significant role in minimizing soil erosion by delaying and lowering the energy of runoff. Some terraces collect drainage water and redirect it underground rather than overland as runoff.

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