

2022-2023
Volume-II

GMR Institute of Technology

Department of Civil Engineering

Compiled by:
Dr.A.Arun Solomon
Assistant Professor,
Department of Civil Engineering,
GMRIT, Rajam

HIGHLIGHTS

- Journal Publications
- Conference Presentations
- MOOCs Completion
- Achievements
- Participations
- Placements

THE VISION OF GMRIT

- ❖ To be among the most preferred institutions for engineering and technological education in the country.
- ❖ An institution that will bring out the best from its students, faculty, and staff – to learn, to achieve, to compete and to grow – among the very best.
- ❖ An institution where ethics, excellence and excitement will be the work religion, while research, innovation and impact, the work culture.

THE MISSION OF GMRIT

- ❖ To turnout disciplined and competent engineers with sound work and life ethics.
- ❖ To implement outcome-based education in an IT-enabled environment.
- ❖ To encourage all-round rigor and instill a spirit of enquiry and critical thinking among students, faculty, and staff.
- ❖ To develop teaching, research, and consulting environment in collaboration with industry and other institutions.

DEPARTMENT VISION

- ❖ To be a preferred department of learning for students and teachers alike, with dual commitment to Academic and Research, and serving students in an atmosphere of innovation and critical thinking.

DEPARTMENT MISSION

- ❖ To provide adoptable education for the graduates in preparing them for a rewarding career to develop academic and research in collaboration with industry and other institutions in the field of Civil Engineering. (M1)
- ❖ To prepare the students as thinking professionals and good citizens who will be able to apply their knowledge critically and innovatively in solving contemporary professional and social problems.(M2)

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1: Graduates with ability to solve core engineering problems through continuous self-paced learning in tune with changing technologies.

PEO 2: Reinforce engineering skills, critical thinking and problem-solving skills in professional engineering practices and deal with socio-economical, technical and business challenges.

PEO 3: Nurture professionalism with soft skills, managerial & leadership skills and ethical values.

PROGRAM OUTCOMES (POS):

Engineering graduate will be able to:

PO 1: Apply the knowledge of basic sciences and fundamental engineering concepts in solving civil engineering problems
(Engineering knowledge)

PO 2: Identify and define civil engineering problems and investigate to analyze and interpret data to arrive at substantial conclusions.
(Problem analysis)

PO 3: Propose appropriate solutions for engineering problems complying with functional constraints such as economic, environmental, societal, ethical, safety and sustainability in accordance with Indian standard codes of practices.
(Design/development of solutions)

PO 4: Perform investigations, design and conduct experiments, analyze and interpret the results to provide valid conclusions. **(Conduct investigations of complex problems)**

PO 5: Select/develop and apply appropriate techniques and IT tools to analyze, design and scheduling of activities with an understanding of the limitations and successfully implement and adopt to technological changes in civil engineering with intervention of IT industries **(Modern tool usage)**

PO 6: Give reasoning and assess societal, health, legal and cultural issues with competency in professional engineering practice.
(The engineer and society)

- PO 7: Demonstrate professional skills and contextual reasoning to assess environmental/societal issues for sustainable development. **(Environment and sustainability)**
- PO 8: Demonstrate knowledge of professional and ethical practices. **(Ethics)**
- PO 9: Function effectively as an individual, and as a member or leader in diverse teams, and in multi- disciplinary situations. **(Individual and team work)**
- PO 10: Communicate effectively with respect to oral, written and graphical communication **(Communication)**
- PO 11: Demonstrate and apply engineering & management principles in their own / team projects in multidisciplinary environment. **(Project management and finance)**
- PO 12: Recognize the need for, and have the ability to engage in independent and lifelong learning. **(Life-long learning)**

PROGRAM SPECIFIC OUTCOMES (PSOS):

Engineering graduate will be able to:

- PSO 1: Demonstrate the quality and suitability of construction materials **(Program Specific)**
- PSO 2: Ability to apply the practical aspect of analysis, design and safe construction practices **(Program Specific)**

OVERVIEW

The Department of Civil Engineering was established in 2002. It offers students a solid grounding in better utilization of resources and greater standardization of construction processes required by the construction industry. Students are taught how to use and employ innovative design methods and techniques. Exposure to contemporary facets planning, construction design and project management are key aspects of the course. Annual intake of this Department is 120 students.

CONSULTANCY

Being facilitated with well-equipped equipment and laboratories the Department of Civil Engineering always contributes a major role in the consultancy works offered to the government and private organizations around the districts and so on.

As a part of Consultancy an amount of 1,46,750/- rupees worth core related works were carried out by the faculty with respect to various specializations.

NATIONAL & INTERNATIONAL JOURNALS

1. Gokulan R, et.al., "Investigation of Copper Ion adsorption using Activated Sawdust Powder: Isotherm, Kinetic and Thermodynamic studies", Global NEST Journal, October 2022. (*Impact Factor: 1.04, SCIE and Scopus Indexed, SJR: Q3*)
2. Gokulan R, et.al., "Ziziphus Jujube Seeds derived Biomass as Cost-Effective Biosorbent for the removal of Cr⁶⁺ from Aqueous solutions: Isotherm and Kinetic Studies", Global NEST Journal, November 2022. (*Impact Factor: 1.04, SCIE and Scopus Indexed, SJR: Q3*).
3. Gokulan R, et.al., "Studies on Influence of Process Parameters in Upgradation of Bio-oil Derived from HTL of Domestic household waste: Application of Response Surface Methodology", Global NEST Journal, October 2022. (*Impact Factor:1.04, SCIE and Scopus Indexed, SJR: Q3*)
4. Naga Siva Pavani Peraka et.al., "Stakeholder-Oriented Optimization of Pavement Maintenance Interventions Using Multi-Criteria Decision-Making Approach", International Journal of Pavement Research and Technology, January 2023. (*Impact Factor:1.66, Scopus Indexed, SJR: Q2*)
5. Sridhar Jayaprakash, et.al., "Evaluation of Artificial Neural Network Predicted Mechanical Properties of Jute and Bamboo Fiber Reinforced Concrete Along with Silica Fume", Journal of Natural Fibres, Vol. 20, No. 1, pp.20, January 2023. (*Impact Factor:3.50, SCIE and Scopus Indexed, SJR: Q1*)

6. Sridhar Jayaprakash, et.al., "Influence of Slag-Based Geopolymer Concrete on the Seismic Behavior of Exterior Beam Column Joints", Sustainability, No.15,pp 15 pages, January 2023. (*Impact Factor:3.889, SCIE and Scopus Indexed, SJR: Q1*)
7. Gokulan R et.al. "Biodecolorization of Reactive Red 120 in batch and packed bed column using biochar derived from Ulva reticulata", Biomass Conversion and Biorefinery, 2023. (*Impact Factor:4.05, SCIE and Scopus Indexed, SJR: Q2*)
8. Vijayakumar A. et.al," Biochar derived from Caulerpa scalpelliformis for the removal of Reactive Yellow 81 in batch and packed bed column, Biomass Conversion and Biorefinery, 2023. (*Impact Factor:4.05, SCIE and Scopus Indexed, SJR: Q2*)
9. Praveen Saravanan et.al. "Batch Studies of Turquoise Blue Dye (TB) Adsorption onto Activated Carbon Prepared from Low-Cost Adsorbents: An ANN Approach" Biomass Conversion and Biorefinery, February 2021. (*Impact Factor:4.05, SCIE and Scopus Indexed, SJR: Q2*)
10. Sridhar J, et.al, "Prediction of the Mechanical Properties of Fibre-Reinforced Quarry Dust Concrete Using Response Surface and Artificial Neural Network", Advances in Civil Engineering,Vol.2023, 13 Pages, January 2023. (*Impact factor:1.843, SCIE and Scopus Indexed, SJR: Q2*)
11. U. Siva Rama Krishna, et.al, "Finite Element Modelling of Bitumen Pavement Structures with Cement Treated Base and Sub-Base Course Layers", Journal of Construction and Building Materials Engineering, Volume-9, Issue-1, January-April, 2023.
12. S. Siva Gowri Prasad, et.al, "A Review on Stabilization of Expansive Soil using Cement, Rice Husk Ash and Waste Plastic", Journal of Geotechnical Studies, Volume-8, Issue-1, January-April, 2023.
13. S. Athibaranan, et.al, "Life Cycle Assessment for G+4 Building Using BIM and One Click LCA", Journal of Construction and Building Materials Engineering, Volume-9, Issue-1, January-April, 2023.
14. Gokulan Ravindiran, et.al, "Removal of azo dyes from synthetic wastewater using biochar derived from sewage sludge to prevent groundwater contamination", Urban Climate, 2023,101502. (*Impact Factor:6.63, SCIE and Scopus Indexed, SJR: Q1*)

15. Gokulan R, et.al, “ MTBE adsorption on surface modified adsorbent kaolin-KOH – A study on kinetic equilibrium and surface morphology”, 2023, Global NEST Journal, 25(4), 86-94. *(Impact Factor: 1.04, SCIE and Scopus Indexed, SJR: Q3)*
16. Gokulan R, et.al, “Enhancement of adsorption efficiency by surface modified Avocado seed for xylene removal”, Global NEST Journal, 25(3), 130-138. *(Impact Factor:1.04,SCIE and Scopus Indexed, SJR:Q3)*
17. Kanta Naga Rajesh, et.al, “A review on alternatives to sand replacement and its effect on concrete properties” Materials Today: Proceedings, 2023. *(Scopus Indexed, SJR:Q2)*
18. Gokulan R, et.al, "Production of Ulva prolifera derived biochar and evaluation of adsorptive removal of Reactive Red 120: batch, isotherm, kinetic, thermodynamic and regeneration studies”, Biomass Conversion and Biorefinery, April 2023. *(Impact Factor: 4.88, SCIE and Scopus Indexed, SJR: Q2)*
19. BPRVS Priyatham, et.al, "Seismic analysis and design of steel beam-column connections in Indian standard code framework", Materials Today: Proceedings, 2023. *(Scopus Indexed, SJR:Q2)*
20. Gokulan R, et.al, “Evaluation of the adsorptive removal of cationic dyes by greening biochar derived from agricultural bio-waste of rice husk”, Biomass Conversion and Biorefinery, 2021. *(Impact Factor: 2.68, SCIE and Scopus Indexed, SJR: Q2)*
21. Arun Solomon A, et.al, “Turning Low-Density Polyethylene plastic waste into plastics bricks for sustainable development”, Materials Today: Proceedings, 2023. *(Scopus Indexed, SJR:Q2)*
22. Arun Solomon A, et.al, “Influence of Supplementary Cementitious Materials on Stress-Strain behaviour and Toughness Characteristics of Concrete Subjected to Higher Temperature Exposure”, Materials Today: Proceedings, 2023. *(Scopus Indexed, SJR:Q2)*
23. RamuP, et.al, “Drought vulnerability assessment by employing the eographical Information Systemand Analytical Hierarchy Process for the Kurnool district of Andhra Pradesh, India”,2023, Ecocycles, Vol.9(1). *(Scopus Indexed, SJR:Q4)*
24. Srikanth, K, et.al, “A study on properties of pervious concrete with high-volume usage of supplementary cementitious materials as substitutes for cement”. Asian Journal of Civil Engineering ,2023. *(Impact Factor: 0.397, Scopus Indexed, SJR: Q3)*

25. Arun Solomon A, et.al, "Abusive Comment Detection in Social Media with Bidirectional LSTM Model", 2023 5th International Conference on Smart Systems and Inventive Technology (ICSSIT), Tirunelveli, India, IEEE Xplore, 2023, pp. 1368-1373. *(Scopus Indexed)*
26. Arun Solomon A, et.al, "Land-cover classification with hyperspectral remote sensing image using CNN and spectral band selection", Remote Sensing Applications: Society and Environment, Remote Sensing Applications: Society and Environment, Volume 31, August 2023, 100986. *(Scopus and ESCI Indexed, SJR:Q1)*
27. Ganesh Prabhu G, et.al, "Effects of fly ash and silica fume on alkalinity, strength and planting characteristics of vegetation porous concrete", 2023, Journal of Materials Research and Technology, Vol.24, pp. 5347-5360. *(Impact Factor: 6.26, SCI and Scopus Indexed, SJR:Q1)*
28. Ganesh Prabhu G, et.al, "Engineering properties of SBS and crumb-rubber modified bitumen – a design of experiment approach", 2023, Journal of Engineering, Design and Technology. *(Impact Factor: 0.371, Scopus and ESCI Indexed, SJR: Q2)*
29. B.P.R.V.S. Priyatham, et.al, "Review on performance and sustainability of foam concrete", Materials Today: Proceedings, 2023. *(Scopus Indexed, SJR:Q2)*
30. B.A.V. Ram Kumar, et.al, "Performance evaluation of red mud as a construction material–A review", 2023, Materials Today: Proceedings, 2023. *(Scopus Indexed, SJR:Q2)*
31. Sridhar J, et.al, "Influence of Prosopis juliflora ash in mechanical properties of concrete", Materials Today Proceedings, vol.80, pp.11681172. *(Scopus Indexed, SJR:Q2)*
32. Arun Solomon A, et.al, "Energy Consumption of Composite Structure in Various Regions in India: A BIM Approach", Civil Engineering and Architecture, Vol. 11, No. 4, pp. 1776 - 1794, 2023. *(Scopus Indexed, SJR:Q2)*
33. Gokulan R, et.al, "Comparative adsorptive removal of Reactive Red 120 using RSM and ANFIS models in batch and packed bed column", Biomass Conversion and Biorefinery, 2023,Vo.13,Pp. 5843–5859. *(Impact Factor: 2.68, SCIE and Scopus Indexed, SJR:Q3)*

34. Pandimani, P "Computational modeling and simulations for predicting the nonlinear responses of reinforced concrete beams", *Multidiscipline Modeling in Materials and Structures*, Vol. 19 No. 4, pp. 728-747. *(Impact Factor:2.6, SCIE and Scopus Indexed, SJR: Q4)*
35. Gokulan R, et al, "Production of Bio Briquettes from Gloriosa Superba Wastes-Turmeric Leaves (GSW-TL) with Cassava Starch Binder for Environment Sustainability. *Waste and Biomass Valorization*,2023.pp 1-20. *(Impact Factor: 3.4, SCIE and Scopus Indexed, SJR: Q2)*

FACULTY CONFERENCE PRESENTATION

- ❖ Giri, J.P et.al,," Utilization of Different Supplementary Cementitious Materials and Recycled Concrete Aggregate for Stabilization of Pavement Base Layer", *Proceedings of Indian Geotechnical and Geoenvironmental Engineering Conference (IGGEC) 2021*, Vol. 2. IGGEC 2021. *Lecture Notes in Civil Engineering*, vol 281. Springer, Singapore. *(Scopus Indexed, SJR: Q4)*
- ❖ Arun Solomon A, et and D. Joseph Charles Tamilmaran, *Abusive Comment Detection in Social Media with Bidirectional LSTM Model*, 2023 5th International Conference on Smart Systems and Inventive Technology (ICSSIT), Tirunelveli, India, IEEE Xplore, 2023, pp. 1368-1373. *(Scopus Indexed)*

FACULTY ONLINE COURSE COMPLETION

- ❖ Mr.Penki Ramu has completed 04 weeks online course on "3D Printing" on 29-Dec-2022, certified by MSME-Technology Development Centre (Process & Product Development Centre, Agra), Ministry of MSME, Govt. of India Society; MSME-TDC, EC-Thiruvalla (Kerala).
- ❖ Mr. G Madhava Krishna Reddy has completed 01 week online course on "Introduction to Data Analytics" on 13th Feb 2023, certified by Skillup by Simplilearn.

- ❖ Dr.A.Arun Solomon completed 7 weeks online course on “3D CAD Fundamental” in Coursera platform.
- ❖ Dr.A.Arun Solomon has completed 4 weeks online course on “Machine Learning for All” on 19th May-2023, certified by Coursera.

FACULTY PARTICIPTION

- ❖ Mr. Siva Ramakrishna attended a 7 days STTP on “Publications, Projects and Patents (PPP2K22)” conducted by CVR college of Engineering, Hyderabad between 28th November and 4th December 2022.
- ❖ Mr. B.P.R.V.S.Priyatham attended a 5 days FDP on “Future Developments in Civil Engineering” conducted by Anand International College of Engineering, Jaipur between 06-02-2023 to 10-02-2023.
- ❖ Mr. K. Naga Rajesh attended a 5 days FDP on “Future Developments in Civil Engineering” conducted by Anand International College of Engineering, Jaipur between 06-02-2023 to 10-02-2023.

FACULTY PH.D COMPLETION



Three of the faculty members Dr.Pandimani, Dr. Kanta Naga Rajesh and Dr. Siva Rama Krishna Uppuluri have completed their doctoral program.

STUDENT'S ACHIEVEMENTS



A team of three students from Civil Engineering participated AFOSEC-2023 at VR Siddhartha College of Engineering and won a cash prize of Rs 11000 in various events. Telangana.



Ms. Sandhya (21341A0105) won gold medal in Andhra Pradesh 10th State Power Lifting Competition



**A. Jahnvi
(19341A0136) got
selected in National
Power Lifting
Competitions which are
held from 10th to 13th of
April 2023 at Himachal
Pradesh.**

STUDENT'S ONLINE COURSE COMPLETION

- ❖ In the Academic year 2022-2023 third year B.Tech students-83 Numbers completed Data Analytics course and 3 completed Digital Marketing and e-commerce course in the Coursera platform.

STUDENT'S INTERNATIONAL JOURNAL PUBLICATIONS

1. K. Chalapathi, K. V. Harsha Vardhan, K. Ramesh Kumar, B. Satish Kumar, D. Lakshminadh, "Life Cycle Assessment of (G+1) Office Building Using BIM and OneClick LC", International Journal of Research Publication and Reviews, ol 4, no 3, pp 560-567, March 2023.
2. J. Teena, G. Gowthami, B. Lakshman, K. Naga Lokesh, K. Gopi, "Open-Graded Friction Course: A Comprehensive Review of Design, Construction, and Performance", International Journal of Research Publication and Reviews, ol 4, no 3, pp 1787-1790, March 2023.
3. P. Swetha, Himansu Senapati, R. Gopikrishna, K. Raviteja, B. Sai Sumanth, B. Jitendra, "Sustainable Material Choice for Residential Building Construction: A Life Cycle Assessment Based on BIM", International Journal of Research Publication and Reviews, ol 4, no 3, pp 919-928, March 2023.

4. B. Kodanda Ramdas, G. Sai Venkata Babu, Ch. Saraswathi, D. Abishek, B. Babu Rao, "mpact Analysis of Residential Building Materials on Environment using BIM and LCA", International Journal of Research Publication and Reviews, ol 4, no 3, pp 953-965, March 2023.
5. N. Sai Charanya, P. Venkatarao, S. Abdul Junaid, D. Chinnammalu, N. Maheswari, "Utilization of BIM And Life Cycle Metric Tools for Evaluating the Life Cycle of a Residential Building", International Journal of Research Publication and Reviews, ol 4, no 3, pp 1073-1077, March 2023.
6. V. Srinuvasurao, R. Bhanu Sai, P. Prasanna Kumar, P. Divya, R. Karthik, "Sesmic Analysis and Design of a Shopping Complex Using BIM: Replacement of Different Column Sections", International Journal of Research Publication and Reviews, Vol 4, no 3, pp 1082-1094, March 2023.
7. T. Sasidhar, Pyla Teja, L. Manikanta, Vandana Sai, P. Mahesh, "Building Better Roads with BioChar: A Review on Modified Bituminous Concrete for Sustainable Infrastructure", International Journal of Research Publication and Reviews, ol 4, no 3, pp 1201-1204, March 2023.
8. T. Mahesh Kumar, P. Harshitha, V. Lahari, Sk. Ijaj, N. Souhit Vikas, "Utilisation of Green Building Materials in Building Construction for a Sustainable Environment -BIM and LCA Analysis", International Journal of Research Publication and Reviews, Vol 4, no 3, pp 1243-1250, March 2023.
9. G Sivani, D. Naveen, B. Revanth Reddy, Ch. Deepak, G. Ajay, "Design and Life Cycle Assessment of Apartment Building Using BIM", International Journal of Research Publication and Reviews, Vol 4, no 3, pp 1335-1342, March 2023.
10. K. Manoj Kumar, V. M. L Tejaswi, 3K. Nitish Kumar, N. Teja Prasad, S. Rajeswari, 6P. Seshadri, "A Systematic Review of Biochar's Use as a Filler Material in Stone Mastic Asphalt", international Journal of Research Publication and Reviews, Vol 4, no 3, pp 1797-1800, March 2023.

11. Y Vinay Kumar, M Sai Lakshmi, S Chaitanya Varma, N Sai Sarath, M Sushma, "Architectural Modelling - its Representation through Virtual Reality and Energy Analysis of a Residential Building Using Various BIM Software", International Journal of Research Publication and Reviews, Vol 4, no 3, pp 1473-1477, March 2023.
12. Jahnavi Adduri, Ch Chandini, A Santosh Kumar, K Vardhan, K Sandeep, "Sustainable Material Choice for Apartment Building Construction: A Life Cycle Assessment Based on BIM and Life Cycle Metrics Tool", International Journal of Research Publication and Reviews, Vol 4, no 3, pp 2145-2152, March 2023.
13. K. Dilleswara Rao, K. Lokesh, M. Arif, S. Naveen, S. Kranthi Kuma, "Utilization of Crumb Rubber in Concrete Pavement, International Journal of Research Publication and Reviews, Vol 4, no 3, pp 2677-2681, March 2023.
14. J. Ramesh, G. Bhargavi, P. Avinash, P. Raviteja, Surya kumara, "investigation of Carbon Footprint on Pre-Engineered Building Using Building Information Modeling and One Click LCA", International Journal of Research Publication and Reviews, Vol 4, no 3, pp 1205-1216, March 2023.
15. Inti Jagan, Pongunuru Naga Sowjanya, Kanta Naga Rajesh, "A review on alternatives to sand replacement and its effect on concrete properties" Materials Today: Proceedings, 2023. (*Scopus Indexed*)

STUDENT'S PARTICIPATION

- ❖ 35 Number of students attended a technical event "Pop the Question" on 01-Feb-2023, conducted by GMR Institute of Technology in association with Indian Society for Technical Education (ISTE).
- ❖ 14 Number of students attended a technical event "Panel Discussion" on 15-Feb-2023, conducted by GMR Institute of Technology in association with Indian Society for Technical Education (ISTE).
- ❖ 43 Number of students attended a technical event "College Tales" on 19-4-2023, conducted by GMR Institute of Technology in association with Indian Society for Technical Education (ISTE).

- ❖ Total 45 students (4th Semester Civil Engg.) attended a virtual Guest Lecture on "Digital transformation: New-age tech skills" by Mr. T. Vamsi Naga Raju, Asst. Professor, SRKR, Engineering. College, Bhimavaram, Andhra Pradesh on 13-05-23, 2:00-3:20PM, Organized by the Department of Civil Engineering, GMR Institute of Technology, Rajam.
- ❖ 60 students of 2nd Semester-BS &H, 4th Semester-Civil Engg. & 6th Semester- Chemical Engg. attended a one day Seminar on "EIA for Environment & Sustainability" by Er. A. Prasad, ONGC, Amalapuram, Andhra Pradesh on 05th June-2023 organized by the Department of Civil Engineering, GMR Institute of Technology, Rajam.
- ❖ Department of Civil Engineering's Green ECO Club in collaboration with NSS Unit of GMR Institute of Technology, in connection with 'World Environment Day' on 05th June-2023 was organized an awareness rally on environment protection at Dolapeta area, Rajam. In this program, nearly 30 students of various department participated along with few teaching faculty members.

PLACEMENTS

- ❖ 21 students were recruited in the GMR group.
- ❖ 16 students were employed in the Sarvani Industries with a CTC of 2.4 LPA each.
- ❖ 1 Student is employed in the JSW with a CTC of 6.5 LPA.

NEW FACULTY RECRUITMENTS



Dr.S.Vivik
DoJ: 24.04.2023
Sr.Assistant Professor



Mrs. V.Priya
DoJ: 24.04.2023
Assistant Professor