DEC 2024

# V.S.B ENGINEERING COLLEGE (AUTONOMOUS)

## DEPARTMENT OF CIVIL ENGINEERING

## ABOUT DEPARTMENT

The Department of Civil Engineering was started in the academic year 2011-12 with an aim of promoting high quality education in the field of Civil Engineering. The department has well equipped laboratory facilities and highly qualified faculty members having rich experience in teaching and industrial background. The department is aiming to transform itself into a Centre of Excellence both in academic and research. The department provides a right kind of environment for the students to groom themselves for innovative and challenging near future.

## DEPARTMENT VISION

To become a centre of academic excellence and to bring out quality civil engineers with global standards and social responsibilities

## DEPARTMENT MISSION

Developing competent engineers by integrating excellent teaching, learning and research activities.
Creating interaction with industries to meet global challenges.
Motivating the students for higher studies and entrepreneurship.
Including moral and ethical values in students

# CHAIRMAN'S MESSAGE

**Mr. V. S. Balsamy, B.Sc., L.L.B., a leading luminary, has 31 years of bright standing in the field of law. He is the recipient of "Indira Gandhi Sadhbavana Award" from Global Economic Council, New Delhi. He was also honoured with "The Best Humanitarian Award" in 2005. VSB Educational Trust was founded by him as the Founder-Trustee in the year 2000. He started V.S.B. Engineering College in Karur in the year 2002 and V.S.B. College of Engineering-Technical Campus in Coimbatore in the year of 2012.He, the Correspondent of VSB Group of Institutions, lays emphasison 'Hard Work'. As he strongly believes that "HARD WORK IS THEKEY TO SUCCESS", it is conceived as the motto of the Institutions.**

## MESSAGE FROM HOD

Welcome to the department of civil engineering, it is an honor for me to welcome the keen learning generation of modern India to a prestigious dorm of knowledge. This department has very strong undergraduate program. The department program is focused on providing not only the technical knowledge but also to encourage the student to be more innovative. The department emphasizes the development of technical skill and critical thinking. We in V.S.B aim to foster an interactive teaching environment. The teaching philosophy of institute is to ensure the environment is making the learner grasp the knowledge. The feedback system in the interactive session helps in analyzing each student adaption and gripping ability. The department has been able to foster this distinguished approach with the help of the staff has excellent credentials and a promising outlook. The faculty is well groomed and has publications in multiple journal and conferences proceedings. It gives me immense pleasure to lead such a prestigious and complete department in every manner. I, congratulate the teaching and non teaching staff and students for their brilliant effort in making the department. I wish all of you great academic career ahead..

# PATENTS

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :20/05/2024

(21) Application No.202441039284 A
(43) Publication Date : 31/05/2024

(54) Title of the invention : IMPROVING SAFE BEARING CAPACITY OF SOIL BY USING CALCIUM CHLORIDE AND SILICATES OF SODA

(51) International classification :C02F0001520000, E01C0021000000, C09K0017460000, C05G0003800000, C05G0005300000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)**Name of Applicant :**
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**3)Hariharan T**
**4)Harish Rahaw M**
**5)Santhosh K**
**6)Vinothkumar M**
**7)Joseph-x.**
**8)Saranyadevi**
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**Address of Applicant : NA**
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**6)Vinothkumar M**
Address of Applicant :Department of Civil Engineering V.S.B Engineering College, Karur District, Tamil Nadu, India Karur ---------- ----------
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Address of Applicant :Department of Civil Engineering V.S.B Engineering College, Karur District, Tamil Nadu, India Karur ---------- ----------

(57) Abstract :
The enhancement of soil bearing capacity is crucial for the stability and longevity of civil engineering structures. This study investigates the efficacy of using calcium chloride and sodium silicate (silicates of soda) as chemical stabilizers to improve the safe bearing capacity of soil. Calcium chloride, a flocculating agent, enhances soil compaction and moisture retention, thereby increasing soil density and reducing the potential for frost heave. Sodium silicate acts as a binder, reacting with soil particles to form a gel-like substance that decreases soil permeability and improves cohesion. The combined application of these additives leverages their synergistic effects, resulting in significantly improved soil strength, stability, and durability. Empirical tests and field studies demonstrate that the treated soils exhibit enhanced load-bearing capacity, reduced plasticity, and greater resistance to environmental stresses. This method offers a cost-effective and efficient solution for soil stabilization, making it a viable alternative to traditional soil improvement techniques. The findings suggest that the integration of calcium chloride and sodium silicate can substantially contribute to the safe bearing capacity of soils, ensuring more reliable and enduring foundation support for construction projects.

No. of Pages : 6 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :03/06/2024

(21) Application No.202441042886 A
(43) Publication Date : 14/06/2024

(54) Title of the invention : NATURAL HYBRID FIBRES ADDED WITH FLY ASH CONCRETE

(51) International classification :C08J0005040000, C08L0097020000, G06Q0010060000, C04B0028040000, C04B0014060000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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**5)S.Nithiyananandhan**
**6)M. Saranya devi**
**7)R.Gowrishankar**
**Name of Applicant : NA**
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(72)**Name of Inventor :**
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**7)R.Gowrishankar**
Address of Applicant :Department of Civil Engineering V.S.B. Engineering College Karur ---------- ----------

(57) Abstract :
Recent days usage of various natural fibers in concrete is getting more interest in the field of construction industry. Because these natural fibers are very cheap and easily available as compare to other type of polymer-based fibers. This current project mainly dealt with effective utilization of hybrid natural fibers, which are extracted from used coconut coir and jute fibers. Three types of natural fibers are used in this experiment with different lengths of 10mm, 20mm, 30mm. The natural fiber concentrations of 0.2%, 0.3% and 0.6% by the mass of the concrete has been taken for experimental investigations. The mechanical properties such as compressive strength, split tensile strength and flexural strength of hybrid fiber reinforced concrete has been experimentally investigated and the results are compared with M20 Grade of normal concrete added with fly ash. The results are clearly showed that, the concrete added with 10mm, 20mm and 30mm natural fibers with concentration of 0.6% has given good results in all prospects of engineering properties.

No. of Pages : 5 No. of Claims : 7

# WORKSHOPS


V.S.B. ENGINEERING COLLEGE, KARUR
(AN AUTONOMOUS INSTITUTION)
Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai
NBA Accredited Courses, Accredited by NAAC
Anna University Recognized Research Institute
23 YEARS OF EXCELLENCE
VSB EDUCATIONAL TRUST
Indian Concrete Institute
DEPARTMENT OF CIVIL ENGINEERING
Organizes
INSTITUTION'S INNOVATION COUNCIL
SEMINAR ON
CODING USE IN CIVIL ENGINEERING
DATE : 31.08.2024
TIME : 2.00 P.M.
Venue: Conference Hall
RESOURCE PERSON
AJITHAA VIJAYASEKARAN
Package App Development Associate,
Accenture Services Pvt Ltd,
Shriram Gateway,
Perungalathur, CHENNAI.
CODE
SHRI. Y.S.BALSAMY CHAIRMAN
SHRI. B. SATHEESH KUMAR VICE CHAIRMAN
SHRI. B. VIJAY SECRETARY
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# V.S.B. ENGINEERING COLLEGE, KARUR

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Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai

NBA Accredited Courses, Accredited by NAAC

Anna University Recognized Research Institute

23 YEARS OF EXCELLENCE

VSB EDUCATIONAL TRUST

## DEPARTMENT OF CIVIL ENGINEERING

INSTITUTION'S INNOVATION COUNCIL

Indian Concrete Institute

Organizes

## SEMINAR ON

## APPLICATION OF CIVIL ENGG SOFTWARE AND APPLICATION OF CIVIL CONCRETE NDT

**Date : 24.07.2024 | Time : 10.30 A.M.**

**Venue: Conference Hall**

**RESOURCE PERSON :**

**A. LAWRENCE,**
NDT QA/QC ENGINEER,
APLUS NDT SERVICES,
COIMBATORE.

| SHRI. V.S.BALSAMY CHAIRMAN | SHRI. B. SATHEESH KUMAR VICE CHAIRMAN | SHRI. B. VIJAY SECRETARY |
|---|---|---|

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# STUDENT'S COCURRICULAR ACTIVITIES

## PARTICIPATION IN WORKSHOPS IN VARIOUS INSTITUTIONS

| S.No | Date | Conference /Symposium | Name of Student(s) | Organized by |
|---|---|---|---|---|
| 1. | 24.08.2024 | National Symposium | Harish.K | Velammal Engineering College |
| 2. | 24.08.2024 | National Symposium | Saranraj.K.S | Velammal Engineering College |
| 3. | 24.08.2024 | National Symposium | Arjun.S | Velammal Engineering College |
| 4. | 24.08.2024 | National Symposium | Balamurugan.M | Velammal Engineering College |
| 5. | 24.08.2024 | National Symposium | Bharathraj.R | Velammal Engineering College |
| 6. | 24.08.2024 | National Symposium | Rajkumar.P | Velammal Engineering College |
| 7. | 24.08.2024 | National Symposium | Muruganantham T | Velammal Engineering College |
| 8. | 21.09.2024 | National Symposium | Sarubala.M.J | Kongunadu College of Engineering And Technology |
| 9. | 21.09.2024 | National Symposium | Thenmozhi K | Kongunadu College of Engineering And Technology |
| 10. | 21.09.2024 | National Symposium | Kanishka V | Kongunadu College of Engineering And Technology |
| 11. | 21.09.2024 | National Symposium | Deepika S | Kongunadu College of Engineering And Technology |
| 12. | 21.09.2024 | National Symposium | Prathisha P | Kongunadu College of Engineering And Technology |
| 13. | 21.09.2024 | National Symposium | Aarthi R | Kongunadu College of Engineering And Technology |
| 14. | 24.10.2024 | National Symposium | Bharatraj B | KPR Institute of Engineering and Technology |
| 15. | 24.10.2024 | National Symposium | Harikumar S | KPR Institute of Engineering and Technology |
| 16. | 24.10.2024 | National Symposium | Santhosh K | KPR Institute of Engineering and Technology |

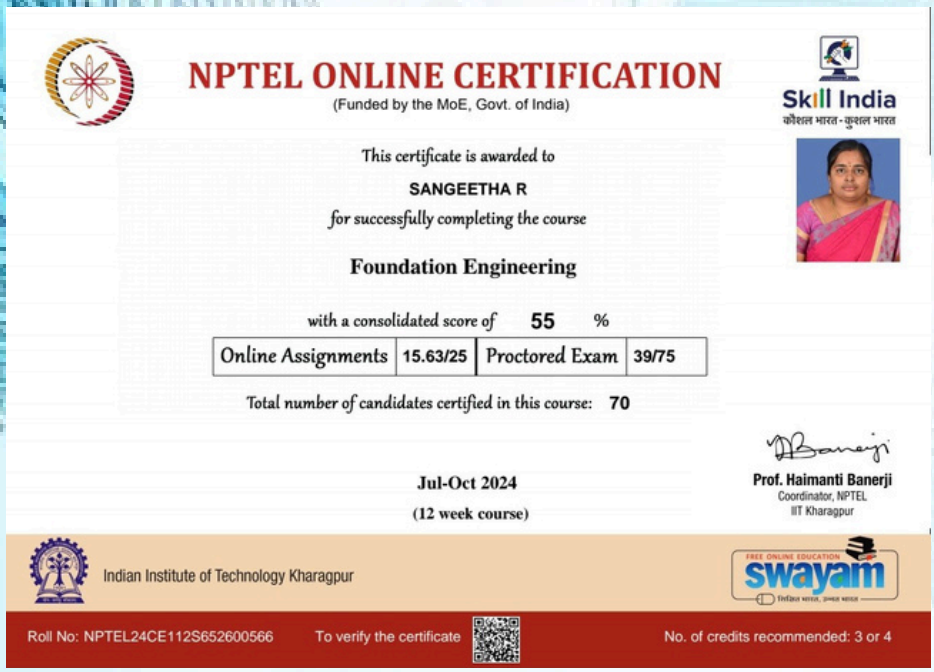
| S.No | Date | Name of the Conference /Workshop | Name of the Student(s) | Organized by |
|---|---|---|---|---|
| 1. | 27.09.2024 | Workshop | Reegan Penial R | KSR College of Engineering |
| 2. | 27.09.2024 | Workshop | Sivaramakrishnan R M | KSR College of Engineering |
| 3. | 27.09.2024 | Workshop | Pavan S | KSR College of Engineering |
| 4. | 27.09.2024 | Workshop | Hariharan A S | KSR College of Engineering |
| 5. | 29.08.2024 & 30.08.2024 | Workshop | Hariharan M | Saranathan Engineering College |
| 6. | 29.08.2024 & 30.08.2024 | Workshop | Pavan S | Saranathan Engineering College |
| 7. | 29.08.2024 & 30.08.2024 | Workshop | Perumal R | Saranathan Engineering College |
| 8. | 29.08.2024 & 30.08.2024 | Workshop | Sivaramakrishnan R M | Saranathan Engineering College |

# INDUSTRIAL VISIT


## CHETTINAD CEMENT CORPORATION PVT. LIMITED

1.Students of 3rd year gone through an internship to Chettinad cement corporation pvt. limited located in karikkali.
2. They learned about the production of cement and various types of cements in the detailed way.

# NPTEL CERTIFICATIONS (FACULTY)



NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

SANGEETHA R

for successfully completing the course

Foundation Engineering

with a consolidated score of 55 %

| Online Assignments | 15.63/25 | Proctored Exam | 39/75 |
|---|---|---|---|

Total number of candidates certified in this course: 70

Jul-Oct 2024

(12 week course)

Prof. Haimanti Banerji
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL24CE112S652600566 To verify the certificate No. of credits recommended: 3 or 4

Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

A VIJAYAKUMAR

for successfully completing the course

Introduction to Internet of Things

with a consolidated score of 65 %

| Online Assignments | 24.78/25 | Proctored Exam | 40.5/75 |
|---|---|---|---|

Total number of candidates certified in this course: 33131

Jul-Oct 2024

(12 week course)

Prof. Haimanti Banerji
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL24CS115S752404815 To verify the certificate No. of credits recommended: 3 or 4

Our Department faculties have completed certification courses in the NPTEL platform and other platforms like UDEMY with high percentages. Consistently updating their knowledge of new technologies and improving their skills.

# SPORTS ACHIEVEMENT


Our department final year student Hariharan have participated in the zone level championship of hockey organized by ANNA UNIVERSITY held SETHU INSTITUTE of technology,KARRIYAPATTI and won the match.

# ANNUAL DAY AND SPORTS DAY



Dr. V. Irai Anbu IAS was invited as a chief guest for the annual day and sports event on 23 rd march 2024. Chief guests speech inspired many of the students.

# CULTURAL FEST 2K24

## VAAGAI 2K24



Rio Raj(actor) was invited as chief guest for the grand cultural fest, ”VAAGAI 2K24" on 23 march 2024.

# ACADEMIC RESULTS

**V.S.B. ENGINEERING COLLEGE, KARUR**

**Department of Civil Engineering**

**Academic Year 2023-2024 (ODD Semester)**

**Overall Result Analysis for NOV- DEC 2023 End Semester Examinations BEFORE REVALUATION**

**DEPARTMENT RESULT**

| Class/ Semester | Total No. of Students | Total No. of Students Appeared | Total No. of Students Passed | Total No. of Students Failed | Overall Pass Percentage (%) |
|---|---|---|---|---|---|
| I / I 2022-2026 Batch | 14 | 14 | 5 | 9 | 35.71% |
| II / III 2021-2025 Batch | 18 | 18 | 14 | 4 | 77.78% |
| III / V 2020-2024 Batch | 18 | 17 | 14 | 3 | 82.35% |
| IV / VII 2019-2023 Batch | 19 | 19 | 15 | 4 | 78.95% |
| **TOTAL** | **69** | **68** | **48** | **20** | **70.59%** |

**DEPARTMENT RESULT-AFTER REVALUATION**

| Class/ Semester | Total No. of Students | Total No. of Students Appeared | Total No. of Students Passed | Total No. of Students Failed | Overall Pass Percentage (%) |
|---|---|---|---|---|---|
| I / I 2022-2026 Batch | 14 | 14 | 6 | 8 | 42.86% |
| II / III 2021-2025 Batch | 18 | 18 | 14 | 4 | 77.78% |
| III / V 2020-2024 Batch | 18 | 17 | 14 | 3 | 82.35% |
| IV / VII 2019-2023 Batch | 19 | 19 | 16 | 3 | 84.21% |
| **TOTAL** | **69** | **68** | **50** | **18** | **73.59%** |

**HoD** **Principal**

# TOPPER‘S LIST

**SEEMA J**
**CGPA- 9.018**
**BATCH: 2020-2024**

**HARINI K**
**CGPA- 8.629**
**BATCH: 2021-2025**

**DEEPIKA S**
**CGPA- 8.386**
**BATCH: 2022-2026**

**SARU BALA M J**
**CGPA- 8.318**
**BATCH: 2023-2027**

# 2024 PLACED STUDENTS DETAILS

| S.No. | Name of the Student | Photo | Company Name | Monthly salary (Rs.) | CGPA | School of Study |
|---|---|---|---|---|---|---|
| 1 | HARISH KUMAR M |  | Planys Technology | 33500 | 7.947 | Bala Metric Hr. Sec School, Vellakovil, Tiruppur(Dt). |
| | | | TDS | 15000 | | |
| 2 | HARISH RAHAW M |  | Planys Technology | 33500 | 7.771 | Sri Aanoor Vidyalaya Metric Hr. Sec. School, Muthur, Tiruppur(Dt). |
| 3 | JENIFER D |  | Capgemini | 48000 | 8.982 | St.Theresa's Matric. Hr.Sec.School, Karur(Dt) |
| | | | Bluescope | 35000 | | |
| | | | TDS | 15000 | | |
| 4 | MAGUDEESWARI V |  | Capgemini | 35500 | 8.759 | St. Aloysius Hr. Sec. School, Dharapuram, Tiruppur(Dt). |
| | | | TDS | 150000 | | |
| 5 | NARESHRAM V S |  | Planys Technology | 33500 | 8.259 | Rasi International School, Rasipuram, Namakkal(Dt). |
| 6 | POOJA V |  | TDS | 15000 | 8.771 | Govt. Hr. Sec. School, manali jedarpalayam, Namakkal(Dt). |
| 7 | SANTHOSH K |  | BGR Energy System | 30000 | 8.324 | Cheran Hr. Sec. School, Vennamalai, Karur(Dt). |
| | | | TDS | 15000 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 8 | SEEMA J |  | Accenture<br>Digital EPCS<br>Capgemini<br>Bluescope | 37500<br>33500-37500<br>35500<br>35000 | 9.00 | P.A.Vidya Bhavan Hr. Sec. School, kakavadi, Karur (Dt). |
| 9 | VASANTH S |  | TDS | 15000 | 8.182 | M.S.P. Solai Nadar Memorial Boys Hr. Sec. School, Dindigul (Dt). |

Students have placed in Top most companies like Planys Technology, Team Detailing Solutions, BGR Energy Systems, Bluescope, Capgemini, Digital EPCS.

# STUDENT'S ARTICLES

## RECENT INNOVATIONS IN CIVIL ENGINEERING

Civil engineering, a cornerstone of infrastructure development, continues to evolve with innovative technologies and practices. Here are some recent advancements that are shaping the future of the field:

1. **Self-Healing Concrete**
   - Description: Self-healing concrete incorporates bacteria or capsules of healing agents that can repair cracks autonomously.
   - Benefits: Extends the lifespan of structures, reduces maintenance costs, and enhances durability.
2. **3D Printing in Construction**
   - Description: Large-scale 3D printers can create entire buildings layer by layer using concrete or other materials.
   - Benefits: Speeds up construction, lowers labor costs, allows for complex architectural designs, and reduces waste.
3. **Green Roofs and Living Walls**
   - Description: Integration of vegetation on rooftops and walls to improve insulation, manage stormwater, and enhance urban biodiversity.
   - Benefits: Improves energy efficiency, reduces urban heat island effect, and promotes environmental sustainability.
4. **Advanced Geotechnical Engineering**
   - Description: Innovations in soil stabilization techniques and foundation design using advanced materials and modeling techniques.
   - Benefits: Enhances safety and stability of structures in challenging terrains, such as earthquake-prone areas.

These innovations highlight the dynamic nature of civil engineering, where technological advancements are driving efficiency, sustainability, and resilience in infrastructure development. As students and future professionals in the field, understanding these trends is crucial for staying abreast of industry developments and contributing to the future of civil engineering.

**HARINI K**
**IV CIVIL**

# 3D PRINTING TECHNOLOGY

3D printing technology is revolutionizing the construction industry, promising faster, cheaper, and more sustainable building solutions. Unlike traditional methods, which rely on manual labor and assembly, 3D printing constructs structures layer by layer from digital designs.

**Advantages of 3D Printing**

1. **Speed and Efficiency**: Significantly reduces construction time compared to conventional methods.
2. **Cost-effectiveness**: Minimizes labor costs and material waste, potentially lowering overall project expenses.
3. **Design Flexibility**: Enables intricate and customizable architectural designs that were previously challenging to achieve.
4. **Sustainability**: Reduces carbon footprint by using local materials and optimizing resource use.

**Applications and Future Prospects**

Currently used in housing, bridges, and disaster relief structures, 3D printing is expanding to larger and more complex projects. Ongoing research aims to improve printer capabilities and materials, paving the way for broader adoption in mainstream construction.

**Conclusion**

As future civil engineers, embracing 3D printing technology is essential. It represents a leap forward in construction methods, offering innovative solutions to meet growing infrastructure demands sustainably. By understanding and leveraging this technology, you can help shape a more efficient and resilient built environment for tomorrow.

**KAVIYA R**
**IV CIVIL**

# SELF HEALING CONCRETE

In the realm of civil engineering, self-healing concrete is emerging as a groundbreaking innovation poised to transform the durability and longevity of structures. This advanced material has the remarkable ability to autonomously repair cracks, enhancing structural integrity and reducing maintenance costs significantly.

**How Does Self-Healing Concrete Work?**

Self-healing concrete incorporates various mechanisms to repair cracks without human intervention. One common approach involves embedding microorganisms or capsules containing healing agents such as polymers within the concrete matrix. When cracks form due to stress or environmental factors, these agents are activated and fill the cracks, restoring the material's integrity.

**Advantages of Self-Healing Concrete**

1. **Extended Lifespan**: By continuously repairing cracks, self-healing concrete prolongs the lifespan of structures, reducing the frequency and extent of maintenance interventions.
2. **Cost Savings:** Lower maintenance costs over the lifetime of a structure due to reduced need for repairs and replacements.
3. **Enhanced Durability:** Improves resistance to environmental factors such as freeze-thaw cycles and chemical corrosion, which can degrade conventional concrete.
4. **Sustainability**: Promotes sustainability by minimizing material waste and extending the service life of infrastructure.

**Current Applications and Future Potential**

Self-healing concrete has already been tested and implemented in various applications, including bridges, tunnels, and buildings. Ongoing research continues to refine the technology, exploring new healing agents and improving effectiveness in different environmental conditions.

**Conclusion**

As aspiring civil engineers, understanding the capabilities and benefits of self-healing concrete is crucial. This innovative material represents a significant step towards sustainable infrastructure development, offering solutions to common challenges faced in construction and maintenance. By embracing and advocating for the adoption of self-healing concrete, you can contribute to building resilient and long-lasting infrastructure that meets the needs of future generations.

In essence, self-healing concrete isn't just a material innovation; it's a testament to the ongoing evolution of civil engineering towards sustainability and efficiency in construction practices.

**RISHMA D**
**IV CIVIL**

# GREEN ROOFS AND LIVING WALLS

Green roofs and living walls are transforming urban landscapes by integrating vegetation into the built environment, offering sustainability benefits and enhancing aesthetic appeal.

**Green Roofs: Nature at New Heights**

Green roofs involve planting vegetation directly on rooftops, providing several key advantages:

- **Environmental Benefits**: Mitigate urban heat island effect, reduce stormwater runoff, and improve air quality.
- **Energy Efficiency**: Natural insulation lowers heating and cooling costs for buildings.
- **Biodiversity**: Create habitats for wildlife and support urban biodiversity.

**Living Walls:** Vertical Gardens in Cities

Living walls are vertical structures covered with plants, offering:

- **Air Quality Improvement**: Plants filter pollutants and release oxygen, improving urban air quality.
- **Aesthetic Enhancement**: Beautify urban spaces and provide a sense of tranquility.
- **Space Optimization**: Utilize vertical space efficiently in densely populated areas.

**Applications and Future Outlook**

Increasingly adopted in urban planning and architecture, green roofs and living walls are found in residential, commercial, and public buildings. Future trends focus on enhancing design and technology to optimize performance and integration into sustainable urban development.

**Conclusion**

Understanding the benefits of green roofs and living walls is crucial for future architects and urban planners. These green infrastructures not only contribute to environmental sustainability but also enhance the livability and resilience of cities. By advocating for their implementation, we can create healthier and more sustainable urban environments for generations to come.

**SANTHIKA S**
**IV CIVIL**

# SMART INFRASTRUCTURE

Smart infrastructure integrates advanced technology into traditional urban systems, revolutionizing efficiency, sustainability, and safety across cities.

**What is Smart Infrastructure?**

Smart infrastructure utilizes sensors and IoT to monitor and manage infrastructure in real-time, offering benefits such as predictive maintenance and enhanced resource efficiency.

**Advantages**

- **Real-time Monitoring**: Sensors provide data on traffic, structural health, and environmental conditions.
- **Predictive Maintenance**: Analytical tools predict maintenance needs, reducing downtime and costs.
- **Safety Enhancement**: Early detection of issues improves safety for users and maintenance teams.
- **Sustainability**: Efficient operations minimize environmental impact and optimize resource use.

**Applications**

- **Transport**: Smart traffic systems reduce congestion and enhance safety.
- **Buildings**: IoT in buildings improves energy efficiency and occupant comfort.
- **Utilities**: Smart grids and water systems enhance resilience and efficiency.

**Future Outlook**

Advancements in AI and machine learning will further enhance smart infrastructure capabilities, ushering in autonomous systems and more adaptive urban environments.

**Conclusion**

Smart infrastructure is reshaping urban development, offering sustainable solutions to modern challenges. By embracing these technologies, cities can become safer, more efficient, and more resilient, benefiting communities worldwide.

**DEEPIKA S**
**III CIVIL**

# EDITORIAL BOARD

## STUDENT AUTHOR


**SRIDEVI. P**

**DEPARTMENT OF**
**CHEMICAL ENGINEERING**

**V.S.B ENGINEERING COLLEGE**


## FACULTY MEMBER


**Mr. R. GOWRISHANKAR**

**HEAD OF THE DEPARTMENT**

**DEPARTMENT OF**
**CIVIL ENGINEERING**

**V.S.B ENGINEERING COLLEGE**