YASHODA SHIKSHAN PRASARAK MANDAL'S

YASHODA TECHNICAL CAMPUS, SATARA

FACULTY OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

CONSTROMATIX

JANUARY - JUNE 2021

DEPARTMENT OF CIVIL ENGINEERING

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Yashoda Shikshan Prasarak Mandal's
Yashoda Technical Campus, Satara
Faculty of Engineering
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OVERVIEW OF DEPARTMENT

Welcome to the Department of Civil Engineering at YSPM's Yashoda Technical Campus, Satara. The department has been immensely successfully working from 2011 in the field of Professional Knowledge and advanced technical world. The department offers 4 years Bachelor of Technology in Civil Engineering.. The department undergoes several curricular and extra-curricular activities throughout the year. The department is having mixture of well experienced and young, enthusiastic faculty members who are involved in industry institute interaction besides their day to day teaching activities. The Department of Civil Engineering at Yashoda Technical Campus (YTC) delivers latest knowledge in Civil Engineering . It prepares students for careers in industry, academia, and also create young entrepreneurs.

STRENGTH OF DEPARTMENT

- Well Qualified, Experienced staff.
- Good infrastructure.
- Well-equipped laboratories.
- Excellent academic performance.
- Departmental Library facility for students.

Vision of the Department

To become a center of excellence by producing Civil engineers having research and development activity, sound technical knowledge, professional skills and social awareness to serve society.

Mission of the Department

M1: To impart quality technical education through interactive teaching learning methods.
M2: To promote research and development activity by encouraging creativity and exposure to real world problems.
M3: To mentor students for innovative thinking with relevance to entrepreneurship.
M4: To develop social awareness in graduates to serve society.

Program Educational Objectives (PEOs)

PEO1: Demonstrate technical expertise, leadership and ethical qualities to design & execute Civil Engineering Projects.
PEO2: Exhibit qualities of teamwork with effective communication, life long learning to address real world civil engineering problems.
PEO3: Develop sensitivity towards environment and society for sustainable development including disaster management.

Program Specific Outcomes (PSOs)

PSO-1 : The graduates will analyse and mitigate the natural disasters for the effective disaster management.
PSO-2 : The graduates will be able to acquire sound technical knowledge to analyse and work on critical civil engineering issues.
PSO-3 : The graduates will be enhancing professional abilities to meet industrial need.

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OVERVIEW OF DEPARTMENT

INSIDE

CONTRIBUTORS

Prof. Vijaya P. Pawar

Prof. Alfaj N. Shaikh

Mr. Amit P. More

Miss. Neha S Mane

Mr. Dhananjay S Khude

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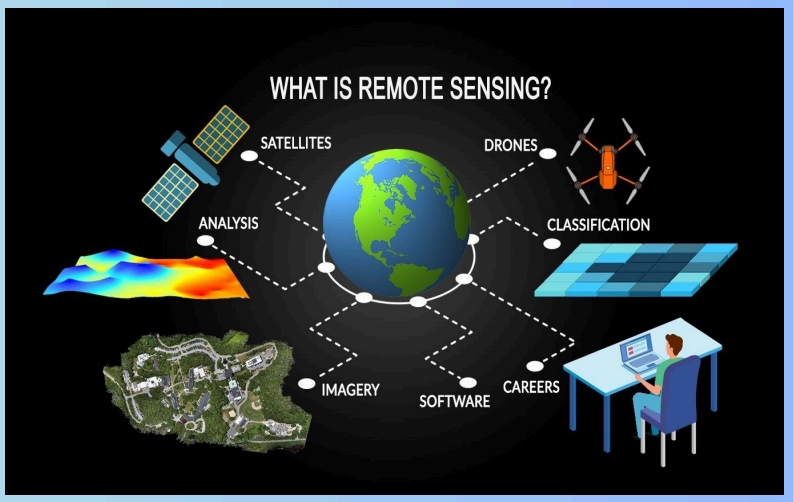
GIS AND REMOTE SENSING FOR CIVIL ENGINEERS



Geographic Information Systems (GIS) and Remote Sensing are two powerful technologies that play a crucial role in the planning, design, and management of civil engineering projects. These tools allow engineers to collect, analyze, and interpret spatial and environmental data to make informed decisions and optimize resource usage. While GIS helps manage spatial data, Remote Sensing provides information about the Earth's surface through satellite or airborne sensors.

Geographic Information Systems (GIS)

Core Functions of GIS: Data Input:

Data Storage: Data Analysis: Data Output:

Applications in Civil Engineering: Urban Planning and Design: Transportation Engineering: Environmental Engineering: Disaster Management:

Remote Sensing Remote Sensing refers to the acquisition of information about an object or phenomenon without making physical contact with it. This is typically achieved by using satellites, drones, or aircraft that capture data from sensors (optical, thermal, radar, etc.) installed on these platforms. The collected data can be processed to create maps, models, and 3D visualizations. Types of Remote Sensing: Optical Imaging: Captures visible light and infrared radiation. Radar Imaging (SAR): Uses radio waves to create high-resolution images of the Earth's surface. Thermal Sensing: Detects heat emitted by objects on the Earth's surface. Applications in Civil Engineering: Land Surveying: Topographic Mapping: Monitoring Infrastructure:

Mr. Amit P More (Final Year Civil)

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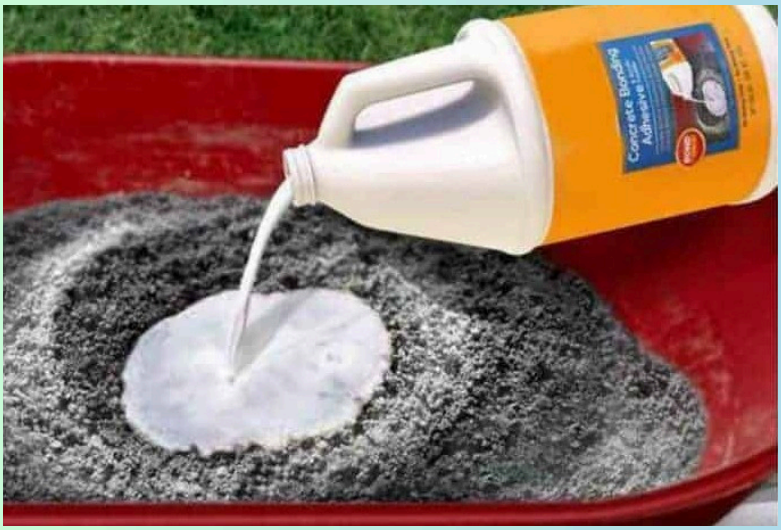
CORROSION-INHIBITING ADMIXTURES



Concrete admixtures are essential components in modern construction, introduced during the mixing phase to enhance the properties and performance of concrete. Serving diverse purposes, these additives play a pivotal role in achieving specific goals such as improved workability, durability, and resistance to environmental factors.

Understanding the necessity of concrete admixtures involves recognizing their ability to optimize concrete mixes and address challenges inherent in conventional formulations.

- Water-Reducing Admixtures (WRAs)
- Accelerating Admixtures
- Superplasticizers
- Shrinkage-Reducing Admixtures

Retarding Admixtures
Air-Entraining Admixtures
Corrosion-Inhibiting Admixtures
Pozzolanic Admixtures

Corrosion-Inhibiting Admixtures

Protect reinforcing steel in concrete from corrosion, extending the lifespan of structures in aggressive environments.

- Composition: Often include calcium nitrite or organic corrosion inhibitors.
- Effect on Concrete: Protects reinforcing steel from corrosion, enhancing durability.
- Usage: Coastal environments, structures exposed to de-icing salts, and locations with aggressive chemical exposure.

Worli Sea Link

Corrosion-inhibiting Admixtures at Worli Sea Link

To mitigate the risk of rapid corrosion for the bridge exposed to seawater, high humidity, and elevated temperatures, project engineers added Sika FerroGard 901, a potent nitrite-based corrosion inhibitor, to the concrete mix. This admixture creates a protective film on the steel reinforcement, guarding it against chloride damage and postponing corrosion onset, thereby preserving the bridge's structural integrity and lifespan.

Prof. Alfaj N. Shaikh

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GEOMATICS IN CIVIL ENGINEERING

The Sun Temple at Modhera is a magnificent architectural and historical landmark located in the state of Gujarat, India. Dedicated to Surya, the Sun God, this 11th-century temple is a shining example of Indian architectural brilliance and ancient solar worship. The temple is situated on the banks of the Pushpavati River in Modhera, a village in northern Gujarat, and is an important site for Hindu pilgrims as well as tourists who admire its exquisite design and intricate carvings. The temple complex was constructed as a tribute to Surya, and it is believed that the temple was designed to align with the solar calendar. The temple is structured in such a way that the first rays of the sun shine directly onto the main idol of Surya inside the sanctum on the equinoxes. This design emphasizes the significance of the Sun in ancient Indian astronomy and religion, demonstrating the precision with which the temple was constructed. The temple complex consists of three primary components: the Kund, the Main Temple, and the Sabha Mandap. The architecture is an excellent example of Solanki style, known for its highly detailed and decorative carvings that depict Hindu mythology, deities, and celestial figures. The temple was designed in such a way that it aligns with the equinox, a time when the sun's rays illuminate the central deity, symbolizing the Sun God's energy and life-giving power. The Sun God, Surya, is worshipped for his association with health, vitality, and prosperity, and the Modhera temple exemplifies this reverence through its design and function. The temple complex also includes inscriptions that mention the donations and grants given to the temple by the rulers of that time, reflecting its historical importance. Though much of the temple was damaged over time due to invasions and natural wear, the Modhera Sun Temple remains a beautiful representation of India's ancient architecture and solar worship.

Prof. Vijaya P Pawar

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ACHIEVEMENTS

PAPER PUBLICATIONS

Sr. No.	Faculty Name	Title	Publication Details
1	Mr. Shah Ajinkya S.	Suitability of recycled plastic waste in production of paver blocks	International Research Journal of Modernization in Engineering Technology and Science
		To Study Effect of Gray Water on The Properties of Concrete	International Journal of Innovative Research in Technology
2	Mr. Shaikh Alfaj N	Analysis and Design of Sand Filter by using Capped Coconut Shell and Coal	International Journal of Research in Engineering, Science and Management
		Implementation of New Water Distribution Network In Village Saigaon (Rahimatpur)	International Journal of Research in Engineering and Science (IJRES)

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ART GALLERY

Mr. Dhananjay Khude
B Tech Civil

मेहनत का तीक

इंजी नयर का जीवन, मेहनत का तीक,
हर दन नया सपना, हर रात एक सीख।
मशीन क धुन, और व ान का संग,
बुनते ह भ व य, उनके हाथ का रंग।
पुल से सड़क तक, इमारत से गांव,
इंजी नयर के बना, अधूरा हर ठांव।
मेहनत क मसाल, वो रात दन जगाते,
नई तकनीक, नए रा ते दखाते।
धातु और कं ट से, रचते नई कहा नयां,
उनके बना अधूरी, हमारी सभी वा हश।
देश क तर क म, सबसे बड़ा योगदान,
इंजी नयर ही होते ह, हर नमाण का ण।
रात क न द खोकर, करते हर समाधान,
हर सम या का हल, उनक सोच का कमाल।
सपन को देते ह, वा त वकता का रंग,
इंजी नयर का योगदान, सबसे अनमोल संग।

मै ी

मै ी अशी असावी
भरकटले या पाखराला घराची वाट दाखवणारी
सुकले या फुलांना बहर आणणारी
:खा या वाळवंटात सुखाचा पाझर फुटवणारी

Miss. Neha S Mane
TY Civil

मै ी एक अलगद श मनाचा
मै ी एक अनमोल भेट जीवनाची
मै ी एक अनोखा ठेवा आठवण चा
मै ी एक अतूट सोबत आयु याची

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