



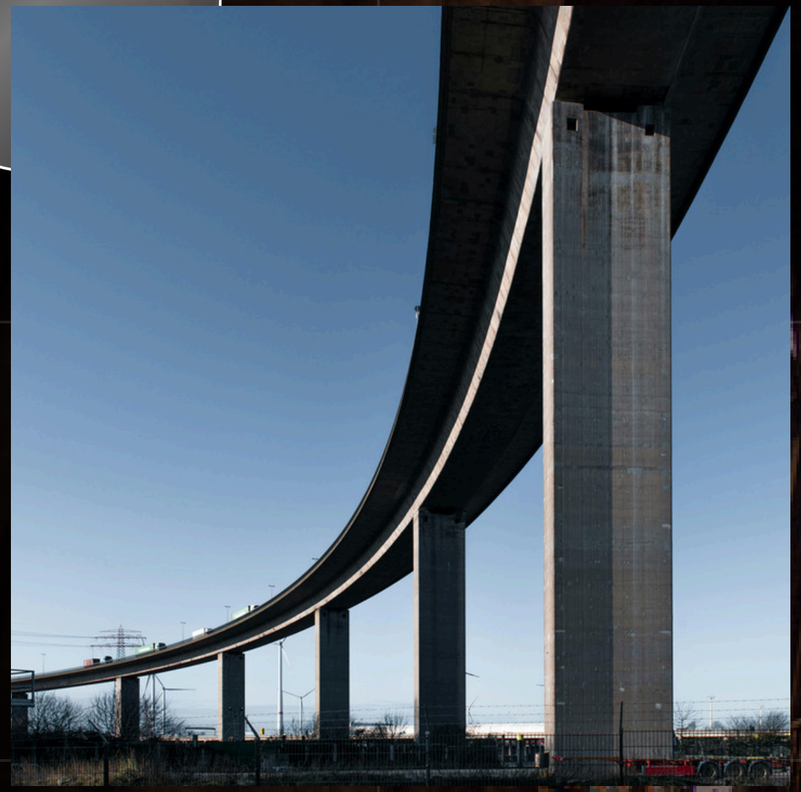


BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT

TVAKSATI

DEPARTMENT OF CIVIL ENGINEERING

#ISSUE 16
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INSTITUTE VISION &MISSION



VISION

To emerge as one of the finest technical institutions of higher learning, to develop engineering professionals who are technically competent, ethical and environment friendly for betterment of the society.



MISSION

Accomplish stimulating learning environment through high quality academic instruction, innovation and industry institute interface

DEPARTMENT VISION &MISSION

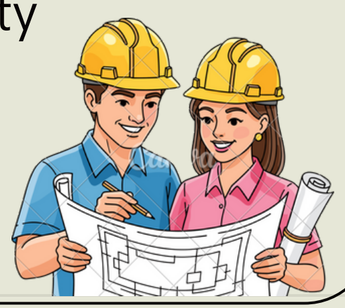
MISSION

Impart technical proficiency through quality education. Motivate entrepreneurship through enhanced industry interaction and skill-based training.-Inculcate human values through outreach activities



VISION

To be an Exemplary Centre, disseminating quality education and developing technically competent civil engineers with professional integrity for the betterment of society







HOD'S DESK

It gives me great pleasure to introduce this edition of the Civil Engineering Department's biannual newsletter, TVAKSATI. This issue showcases our major projects, such as departmental initiatives, student accomplishments, industry visits, and a range of extracurricular and co-curricular activities. Both our faculty and students' ongoing efforts and advancements are reflected in the newsletter. I value every contributor's and the editorial team's commitment. I hope that everyone will be motivated to pursue even greater excellence by this edition.

FACULTY AS RESOURCE PERSON





- Dr. Vinod B R, Assistant Professor, Department of Civil Engineering has extended his support as a resource person for a one-day workshop on “OBE based Teaching Learning and Bloom Taxonomy”on 03.01.2025 at Sai Vidya Institute of Technology, Bengaluru.

- Shimna Manoharan, Assistant Professor, Department of Civil Engineering, delivered a technical talk on "the transformative impact of Artificial Intelligence (AI) on the civil engineering industry" organised by IGS Student Chapter, Civil Engineering Department of Mar Baselios College of Engineering & Technology on 25 February 2025. Almost 50 participants attended the session

- Shimna Manoharan, Assistant Professor, Department of Civil Engineering, delivered a technical talk on the topic "Importance of AI/ML in Civil Engineering" in a workshop as part of the Summer Startup Festival 2025 on 6th March 2025, in association with Innovation and Entrepreneurship Development Centre (IEDC) Government College of Engineering, Thrissur.

- Dr Rajesh Gopinath (Professor, Department of Civil Engineering) has engaged as a Resource Person during the 1-day Hands-on Workshop on Air Quality Index on 2nd May 2025 at Department of Civil Engineering, Acharya Institute of Technology, Bengaluru.

FACULTY AWARDS

- Department of Civil Engineering is pleased to share that our faculty Dr Rajesh Gopinath (Associate Professor, Department of Civil Engineering, BMS Institute of Technology and Management, Bengaluru) has presided as the Chief Guest on the eve of India's 76th anniversary of Republic Day (26-01-2025) celebration at Sai Shankar Vidyashala (managed by People's Trust), Rajanakunte, Bengaluru. The day also is earmarked as World Environmental Education Day. On this occasion, he was conferred with *Green Teacher's Award* by Green Circle (Environmental NGO), to commemorate his efforts to enhance Environmental Awareness by both formal and informal education.
- On March 26, 2025, Dr. Rajesh Gopinath (Associate Professor, Department of Civil Engineering) was honored with the Prathama Gurushreshtha Puraskar ~ 2024 at Thiruvananthapuram, Kerala. The prestigious award was presented by the Honorable Governor of Kerala, Shri Rajendra Vishwanath Arlekar. Instituted by VWMC, this award recognizes diaspora of distinguished faculty members worldwide, based on a comprehensive evaluation of the academic - research profile and Socio-environmental outreach.
- Multi-disciplinary Project titled "IOT-based Environmental Monitoring System with Threshold Mechanism for Smart Cities" mentored by Dr Rajesh Gopinath has won the 1st runner up prize at the 11th edition of the National Level Technical Project Exhibition (SRISHTI-2025) at Saintgits College of Engineering, Kottayam, Kerala, conducted during 24-25 Feb 2025.







RESEARCH PAPERS BY FACULTY





Nilap, Arati Reddy, H. N. Rajakumara, Ali Aldrees, Hasan Sh Majdi, and Wahaj Ahmad Khan. "Storm water runoff studies in built-up watershed areas using curve number and remote sensing techniques." Discover Sustainability 6, no. 1 (2025): 1-22.



Dr Chandrashekarappa Assistant Professor presented entitled “Integrated study of Metabasalts in Mallasamudra area, Gadag Schist Belt, Karnataka, India” in International Conference on Earth and Environment in the Anthropocene (ICEEA 2025) conducted by Central University of Karnataka (CUK) Kalaburagi, Karnataka, India from 5 th Mar to 7 th Mar 2025.



RESEARCH PAPERS BY FACULTY



Dr Vinod B R, et.al Assistant Professor, Department of Civil Engineering, BMS Institute of Technology and Management "A Study on effect of Coconut Shell Biochar Modified with Aluminum Chloride on sludge dewatering of secondary sludge in wastewater treatment plant" , International Conference on Adaptive Technologies in Engineering and Science (ICOATES 2025) Organized by K R Pet Krishna, Government Engineering College K R Pet - 571426, Mandya District, Karnataka, India, 24th and 25th, April, 2025.

He, et.al Assistant Professor, Department of Civil Engineering , BMS Institute of Technology and Management "Understanding of Urban Lake Dynamics in the Contaminant Surviving region using Sampling and Intervention Technique", International Conference on Civil Engineering Trends and Challenges for Sustainability (CTCS-2025), Department of Civil Engineering , NMAM Institute of Technology, Mangalore, Karnataka, India - 574 110,6th & 7th February 2025.

He , Assistant Professor, Department of Civil Engineering, has been appointed as 1 st International Conference on Green Technology & Sustainability (ICGTS 2025), organized by the Department of Civil Engineering, National Institute of Technical Teachers' Training and Research Kolkata on 29 - 30 May, 2025.



FACULTY ACADEMIC ACHIEVEMENT

Dr. Rajesh Gopinath Professor, Department of Civil Engineering, has been in recognition of your distinguished contribution as a panellist at the Acharya international Design Conference 2025 held at the Acharya school Design Bangalore Dated on 28.5.2025 to 30.5.2025

Dr. Vinod B R , Assistant Professor, Department of Civil Engineering, has been appointed as Conference session Chair for the International conference on " Adaptive Technologies in Engineering and Sciences: ICOATES2025" organized by KR Pet Krishna Government Engineering College, K R Pet on 24th and 25th of April 2025.



WEBINAR ATTENDED (Non-Teaching Staff)

Mr. Arun Kumar N, Research Assistant, Department of Civil Engineering, attended an online workshop on "AI Tools and ChatGPT" organized by be10X on 18th May 2025 and also has Successfully Participated in the Webinar Modeling for Torsion in Etabs Dated on April 12 /2025



FACULTY EXPERT TALK



- Dr. Vinod B R , Assistant Professor, Department of Civil Engineering has extended his support as a resource person for a Technical Talk on “Innovative Ground Improvement Techniques for Problematic soils” organized by Department of Civil Engineering, ATMECE, Mysore in Association with IGS Student Chapter on 23rd April 2025.
- Dr. Rajakumara H N Professor, Department of Civil Engineering has extended his support as a resource person for a Technical Talk on “Green Building Technology for Sustainable Development , organized by Department of Civil Engineering, P E S College Mandya Dated ON 21.4.2025



FACULTY DEVELOPMENT PROGRAM

Dr. Chandrashekharappa A, Assistant Professor, Department of Civil Engineering participated in 5 Days Faculty Development Program (FDP) on Data Analytics for Scientific Research. The FDP was organised by Karnataka Science and Technology Academy (KSTA) Bengaluru, Department of Science and Technology, Govt. of Karnataka from 17.06.2025 to 21.06.2025

Dr Chandrashekarappa Assistant professor Participated in FDP program on "AI &ML for smart and sustainable solutions in Civil Engineering" from 18 th Mar to 22 nd Mar 2025 Organised by SASI Institute of Technology and Engineering Tadepalligudem, AP, India.

Dr Chandrashekarappa Assistant professor Organised Senior to Junior Talk on 25 th Mar 2025 (online) for 2021 Batch Civil Engineering students related to Company specific Interaction of Kalpataru Group Campus Drive.

Dr. Aruna G., Associate Professor and Head of the Department of Civil Engineering, completed a one-week online FDP on "Artificial Intelligence (AI) Revolution in 2025," organized by the Department of Civil Engineering, St. Joseph University, Nagaland, India, from March 24th to 28th , 2025.







FACULTY DEVELOPMENT PROGRAM



- Dr. Chandrashekharappa A, Assistant Professor, Reviewed one research paper of Springer Nature on 20.01.2025.

- Dr Vinod B R, Assistant Professor, Department of Civil Engineering has completed One week. Faculty Development Programme on “Application of Machine Learning in Civil Engineering” organized by Department of Civil Engineering, SJB Institute of Technology, Bengaluru, Karnataka during 27.1.2025 to 01.02.2025.

- Dr Archana K, Assistant Professor, Department of Civil Engineering has completed One week Faculty Development Programme on “Application of Machine Learning in Civil Engineering” organized by Department of Civil Engineering, SJB Institute of Technology, Bengaluru, Karnataka during 27.1.2025 to 01.02.2025 and has also completed workshop on “Sustainable Infrastructure Solutions on Climate Change Resilience (SISCCR 2025)” organized by VNIT Nagpur, India during 24.01.2025 to 25.01.2025.



FACULTY DEVELOPMENT PROGRAM



- Mrs. SHIMNA MANOHARAN, Assistant Professor, Department of Civil Engineering has successfully participated in & completed the AICTE Training and Learning (ATAL) Academy Faculty Development Program on “Earthwise-Transforming Climate Action & Sustainability for Better Tomorrow” at the National Institute of Technology, Rourkela from 10/02/2025 to 15/02/2025 and also has successfully participated in & completed AICTE Training and Learning (ATAL) Academy Faculty Development Program in 6 DAY ONLINE FACULTY DEVELOPMENT PROGRAM ON “GENERATIVE AI: TECHNIQUES, TOOLS, AND APPLICATIONS” at National Institute of Technology Delhi from 03/02/2025 to 08/02/2025

- Dr Rajesh Gopinath, Associate Professor Department of Civil Engineering, has successfully participated in & completed the AICTE Training and Learning (ATAL) Academy Faculty Development Program on “Earthwise-Transforming Climate Action & Sustainability for Better Tomorrow” at the National Institute of Technology, Rourkela from 10/02/2025 to 15/02/2025 and also has attended ATAL Sponsored Six Days Workshop on “Artificial intelligence for Science and Engineering” from 17th- 22nd February, 2025, organised by NIT Nagaland.



FACULTY JOURNALS

Vinod B R , Sreelakshmi T K , Shobha R “Pervious Concrete As A Sustainable Solution For Groundwater Recharge: A Comprehensive Review Of Material Properties And Fluid Flow Dynamics” ACTA Scientiae, ISSN: 1517-4492, Volume 6,: Page Number : 163-170



FACULTY ACCOMPLISMENTS



Dr. Chandrashekharappa A, Assistant Professor, Department of Civil Engineering participated in Webinar titled “L&T Tech Enabled Approach for Project Planning and Execution of Building” , organized by the Construction Technology and Alliance Institute (CTAI).

Dr. Chandrashekharappa A, Assistant Professor, Department of Civil Engineering has completed MOOC course on “Aerial Image Segmentation with PyTorch” through courser on 1 st May 2025.



FACULTY CONFERENCE



Dr. Vinod B. R., Assistant Professor, Department of Civil Engineering, BMS Institute of Technology and Management, has presented and co-authored multiple research papers at national and international conferences held during May and June 2025. His research contributions focus on soil stabilization using nano silica and steel fibres, evaluation and mathematical modelling of soil nailing performance using partial differential equations, critical reviews of soil–nail interaction mechanisms, slope stability analysis of landfill slopes, and sustainable concrete solutions incorporating treated wastewater. In addition, his work also extends to intelligent green and smart technologies for smart cities, advancements in water treatment technologies supporting sustainable development goals, and the development of an AI/ML-based chatbot for skin and heart-related diseases. These papers were presented at the 2nd International Conference on Sustainable Innovations in Civil and Mechanical Engineering (ICSICME-2025) held on 27–28 June 2025, the Second International Conference on Emerging Technologies in Science and Engineering (ICETSE-2025) held on 19–20 June 2025, and the 1st International Conference on Green Technology & Sustainability (ICGTS-2025) held on 29–30 May 2025, organized by reputed institutions across India.



INDUSTRIAL VISIT

An industrial visit was arranged by the Department of Civil Engineering for 5th and 3rd Semester students at Karnataka State Remote Sensing Centre (KSRSAC) Bengaluru on 16.01.2025. Dr. Chandrashekharappa A and Mrs. Archana K). accompanied students.

The Department of Civil Engineering, in association with the Traffic Management Centre (TMC), Bengaluru, Six semester Student. Dated on 27.5.2025, Dr Marsh M Bandi ,Dr Lalit Kumar Gupta , Shimna Manoharan ,Mr Ravikiran K C ,Mr Sudhakar G S .







BJUO Prajwal V Dev (7th Sem - Civil Dept.) has achieved a momentous feat by being selected for the Prestigious Republic Day Camp (RDC 2025) in the Idea & Innovation Competition category. His journey is a beacon of creativity, resilience, and a relentless drive for excellence. Representing the Karnataka & Goa Directorate on the grand stage in New Delhi, Prajwal will showcase his groundbreaking project, MITRA-D (Dharatee)—a revolutionary bioplastic crafted from sugarcane bagasse. This innovative solution tackles India's pressing plastic waste crisis with eco-friendly ingenuity, paving the way for a greener, sustainable future

STUDENT ACHIEVEMENT

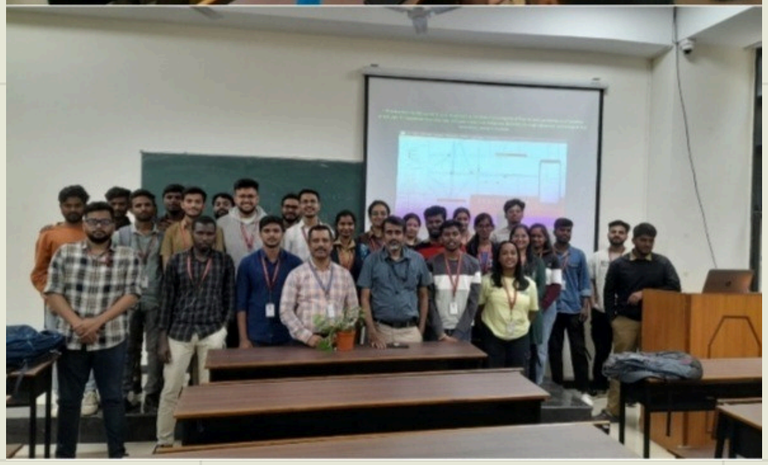
SEMINARS/EXPERT TALKS



Department of Civil Engineering organized an expert talk on the topic "Satellite Remote Sensing and Geospatial Technology Applications" on 09th Jan 2025 for 5th Sem and 3rd Sem students as part of curriculum activity. Resource Person: Vijay Kumar, HR Manager, AGSRT, Malleswaram, Bengaluru. (Coordinator: Dr. Chandrashekharappa A).

Department of Civil Engineering Organized Expert Talk entitled "Job opportunities in market and Primavera Industry-Grade Software" on 11th Jan 2025 for 7th Semester students as part of Industry Interaction activity. Resource Person: Er. Ashok Kumar, CEO, CMTI, Bengaluru. (Coordinators: Dr. Marsh M Bandi and Dr. Chandrashekharappa A).











STUDENT DEVELOPMENT PROGRAM

- The Department of Civil Engineering at BMSIT&M, in collaboration with the ICE Student Chapter, organized a panel discussion titled “Bridging the Gap” to strengthen the academia–industry interface. Eminent professionals from leading firms like AtkinsRéalis, AECOM, Arcadis, and BIAL shared expert insights on innovation, professional development, and real-world engineering practices. The event saw active participation from over 150 students, fostering dynamic interaction. Faculty member Shimna Manoharan and Dr Chandrashekarappa coordinated the event and contributed valuable academic perspectives as panellists. The session concluded with an engaging Q&A, inspiring students to align their learning with industry expectations.
- Department of Civil Engineering has Organised Webinar on “GATE, Higher Education and other competitive exams” for all students on 12.05.2025 at at Room No. 206 Lab Block, Lab Block. Resource persons: Mr. Farzaib Baig, Manager– Business Development, NICMAR (Coordinator: Dr. Chandrashekharappa A, Dr. Anupkumar G Ekbote, Dr. Deepak M.S).







STUDENT DEVELOPMENT PROGRAM

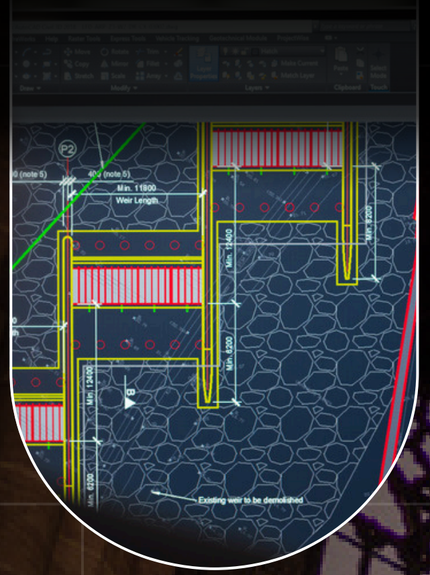
- Department of Civil Engineering has conducted 6-days training program on Revit Software, designed to enhance students technical skills and proficiency in design and drawing. The training was conducted by experienced professional from M/s Medini Technologies Bengaluru for All the students of 4th semester students from 5-05-2025 to 10-05-2025 at CAD Lab, 1ª Floor, LAB Block, Civil Engineering Department, BMSIT. (Coordinator: Mrs. Shobha R Y , Dr. Chandrashekharappa A, Dr. Marsh M Bandi, Tech Staff - Staff: Ravikiran K.C).

- Department of Civil Engineering has conducted 5-days training program on Primavera Software, designed to enhance students technical skills and proficiency in design and drawing. The training will be conducted by experienced professional from M/s Medini Technologies Bengaluru for All the students of 6 th Semester from 26-05-2025 to 30-05-2025 at CAD Lab, 1ª Floor, LAB Block, Civil Engineering Department, BMSIT&M
(Coordinator: Mrs. Shobha R Y , Dr. Chandrashekharappa A, Dr. Vinod B.R, Tech Staff - Staff: Ravikiran K.C).





STUDENT'S CORNER







The Students' Corner is a space that celebrates the talent, creativity, and enthusiasm of our students. From academic achievements and innovative ideas to cultural activities and sports highlights, this section reflects the vibrant student life on campus. It also gives students a voice to share their thoughts, experiences, and inspirations. Every contribution here showcases teamwork, passion, and the spirit of learning beyond classrooms. Let this corner inspire others to explore, express, and excel.



ART







ARTICLE



⛰️ Summary of Silkyara-Barkot Tunnel

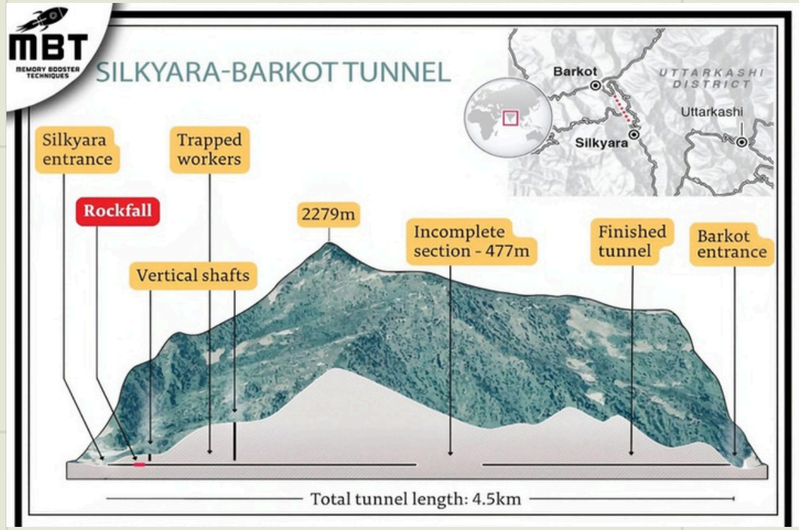
The construction of critical new infrastructure in the Indian Himalayas, specifically as part of the Char Dham Highway project in Uttarakhand, is marked by both ambitious goals and extreme risks. This effort seeks to replace narrow, unsafe mountain routes with all-weather, two-lane highways and tunnels to secure connectivity for vital pilgrimage sites.

The inherent challenges of the project were grimly realized with the collapse of the Silkyara Bend-Barkot Tunnel on November 12, 2023. This catastrophic failure resulted in the immediate entrapment of 41 construction workers. The tunnel, a 4.531-kilometer bi-directional structure, was designed to significantly reduce the distance to Yamunotri by approximately 26 km, cutting travel time from an hour to just five minutes. The cost of this section, including land acquisition and maintenance, was estimated at over ₹1,383 crore.

The resulting 17-day international rescue operation was one of the most intense in recent history. While ultimately successful in freeing all 41 workers, the subsequent investigation exposed deep systemic flaws. The root cause was determined to be a dangerous combination of a highly unstable geological location—situated along a major shear zone of weak rock—and significant man-made failings. These included poor workmanship, inadequate supervision, the failure to construct an emergency escape passage, and a willful neglect to adjust construction protocols despite numerous prior warnings and minor collapses.

The incident has highlighted the need for rigorous adherence to advanced techniques, such as the New Austrian Tunnelling Method, which is being employed on other large projects like the Zojila Tunnel. This focus on enhanced engineering is paramount. Despite the high cost, the strategic and socioeconomic need for these reliable connections is vital for the region.

The events serve as a critical mandate for India to elevate its engineering and safety standards, ensuring that future projects can tame the volatile Himalayan environment without such catastrophic consequences. The ultimate goal is to complete the tunnel safely, a milestone achieved with the excavation breakthrough in April 2025, offering light at the end of a very difficult passage



BY: NITHYANANDA
USN:1BY23CV040

ARTICLE



IMPORTANCE OF INDIAN STANDARDS

Indian Standards (IS Codes) are vital in civil engineering for ensuring structural safety, quality control, and regulatory compliance, mandated by the Bureau of Indian Standards (BIS). They provide uniform design codes, standardized materials (ISI mark), and construction practices (e.g., IS 456 for concrete, IS 800 for steel), which enhance durability, prevent failure, and ensure disaster resilience against earthquakes and environmental loads.

Key Roles and Importance:
Safety and Structural Stability: They provide essential guidelines for designing structures to withstand natural forces like earthquakes, wind, and fire, ensuring human safety.
Quality Assurance: By standardizing materials and testing methods, they guarantee consistency in quality and long-term durability.
Regulatory Compliance: Following these codes is legally required, ensuring construction projects meet national building regulations and safety standards.
Efficiency and Cost Optimization: Standardized codes speed up the design and construction process, reduce material waste, and minimize errors, enhancing overall project efficiency.

Key Codes: Examples include IS 456:2000 (Plain and Reinforced Concrete), IS 800:2007 (General Construction in Steel), IS 1893 (Earthquake Resistant Design), and the National Building Code of India (NBC).

Adhering to these standards ensures safe, durable, and reliable infrastructure which is crucial for public welfare.

BY: AMRUTHA G
USN:1BY23CV006

मानकः पथप्रदर्शकः
BUREAU OF INDIAN STANDARDS MARK

ISI
INDIAN STANDARDS INSTITUTION MARK

ARTICLE



HISTORICAL PLACES IN INDIA: A GLORIOUS REFLECTION OF THE PAHE PAST

India is a land of ancient civilization, rich traditions, and remarkable heritage. Its historical places reflect the country's cultural, religious, and architectural legacy, preserving stories of kingdoms, faiths, and historical events that shaped the nation.

Kashi (Varanasi):

Kashi, also known as Varanasi, is one of the oldest continuously inhabited cities in the world. Located on the banks of the River Ganga in Uttar Pradesh, it is considered the spiritual capital of India. The Kashi Vishwanath Temple, dedicated to Lord Shiva, holds immense religious and historical significance. The ghats of Varanasi represent centuries-old traditions, rituals, and architectural evolution.

Ayodhya Ram Temple:

Ayodhya, situated in Uttar Pradesh, is an ancient city deeply rooted in Indian history and mythology. It is believed to be the birthplace of Lord Rama. The Ram Temple in Ayodhya stands as a symbol of cultural heritage, faith, and architectural revival. The temple reflects traditional Indian architectural styles and represents an important chapter in India's historical and cultural narrative.

Red Fort:

The Red Fort in Delhi is a prominent symbol of India's Mughal history. Built in the 17th century by Emperor Shah Jahan, the fort is constructed from red sandstone and showcases impressive Mughal architecture. Today, it holds national significance as the venue for India's Independence Day celebrations.

Hampi:

Hampi, located in Karnataka, was the capital of the Vijayanagara Empire. The ruins of temples, palaces, and bazaars highlight the advanced town planning and artistic achievements of the empire. Hampi is recognized as a UNESCO World Heritage Site.

Ajanta and Ellora Caves:

The Ajanta and Ellora Caves in Maharashtra are masterpieces of ancient rock-cut architecture. These caves illustrate Buddhist, Hindu, and Jain traditions through sculptures and paintings, reflecting India's long history of religious harmony and artistic excellence.

Konark Sun Temple:

The Sun Temple at Konark in Odisha is a 13th-century architectural wonder designed in the shape of a massive stone chariot. Dedicated to the Sun God, the temple is renowned for its intricate carvings and scientific precision.

BY: ARPITHA PANDIT
USN:1BY23CV010



POEM



Mother

She wakes before the world begins,
With tired eyes and quiet strength within.
Her hands hold stories of endless days,
Of silent prayers and selfless ways.
In every meal, in every chore,
She gives her love—and gives some more.
No spotlight seeks her gentle care,
Yet home feels safe when she is there.
Her kindness lives in small unseen things,
In healing words her comfort brings.
She loves without a single demand,
A steady heart, a guiding hand.
Not made of magic, yet feels divine,
She turns our struggles into signs—
That love can work, endure, and stay,
Like a mother’s care, day after day

Moon

The moon hangs quiet in the velvet sky,
A silver secret drifting by.
It listens to the world below,
To whispered dreams we never show.
Through broken clouds and sleepless nights,
It pours the dark with tender light.
Not loud like sun, nor proud or bright,
Just calm enough to hold our sight.
A patient friend, both old and new,
Watching hearts heal, watching hearts bruise.
The moon reminds us, soft and slow—
Even in darkness, we still glow.

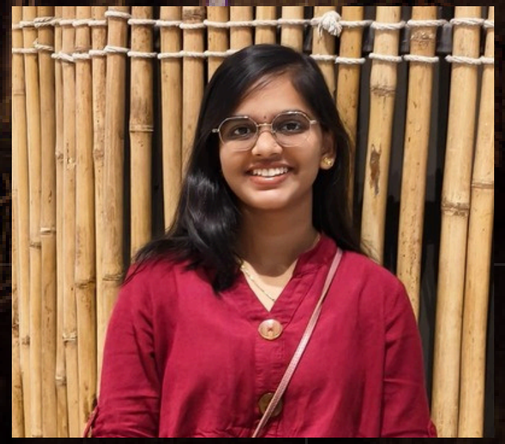
EDITOR'S PAGE



DR Shimna Manoharan
Coordinator for newsletter



Amrutha G
1BY23CV006



Arpitha Pandit
1BY23CV010

EDITORIAL BOARD

This newsletter is a small window into our everyday college life—our ideas, efforts, achievements, and memories. It's all about the moments we create while learning, growing, and enjoying the journey together. Through these pages, we hope to share positivity, creativity, and a sense of togetherness. Happy reading, and let this edition bring a smile to your face!

--EDITORIAL TEAM