SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY, MANAGEMENT & GRAMOTHAN, JAIPUR
An Autonomous Institute Affiliated to Rajasthan Technical University, Kota

Volume 1, Issue 1 January, 2025

NEWSLETTER

Biannual Bulletin

DEPARTMENT OF CIVIL ENGINEERING

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CONTENT

FROM THE EDITOR'S DESK

Dr. Sunita Tolani
Chief Editor

Welcome to the inaugural issue of the Civil Engineering Department Newsletter!

It gives me immense pleasure to present the inaugural issue of the Civil Engineering Department's biannual newsletter. This initiative marks a new chapter in our journey of fostering knowledge-sharing, celebrating achievements, and strengthening our vibrant community of students, faculty, and alumni.

In this first edition, we are thrilled to feature the inspiring success story of our very own Hemlata Kumawat, who has made us proud by securing the 21st rank in the prestigious Indian Engineering Services (IES-2024). The newsletter also highlights a wide range of departmental activities, faculty milestones, and remarkable achievements of our students and alumni. We are particularly excited to share the creative expressions of our students, which showcase their talent and innovative thinking.

Furthermore, this edition includes an insightful discussion on the sustainable use of construction materials in civil engineering - a topic that resonates deeply with the global push for environmental stewardship and responsible engineering practices.

As we embark on this new journey, we aim to make this newsletter a platform for inspiration, collaboration, and continuous learning. We welcome your feedback and contributions to ensure that this newsletter reflects the aspirations and achievements of our civil engineering community.

Thank you for your support, and we hope you enjoy reading this edition as much as we enjoyed putting it together!

FROM THE HoD'S DESK

Dr. D.K. Sharma
HEAD
Department of Civil Engineering

Welcome to the first issue of the Civil Engineering Department Newsletter! As we begin this exciting new initiative, I want to take a moment to reflect on our department's journey, celebrate our milestones, and look ahead to the future. Our department has long been committed to excellence in education, research, and community impact. Civil engineers play a vital role in shaping society through infrastructure development, sustainable design, and innovative problem-solving. This newsletter showcases our collective achievements and highlights the transformative work being done in civil engineering worldwide.

Each edition will feature cutting-edge research, departmental events, and success stories that reflect the dynamic nature of civil engineering. Collaboration between our dedicated faculty and hardworking students is key to our ongoing progress. As we look to the future, we are focused on emerging areas such as sustainable construction, smart infrastructure, and climate-resilient designs. We aim to equip students with both technical expertise and leadership skills to excel in their careers and contribute to society.

I hope this newsletter becomes a valuable resource for all of us and a source of pride. I encourage everyone to engage with the content, participate in discussions, and contribute to future issues. Together, we can continue building on our legacy of excellence in civil engineering. Thank you for your ongoing support and dedication.

SUCCESS STORY

Hemlata Kumawat
(2015-19 Batch)

THE JOURNEY OF DETERMINATION AND SUCCESS:

HEMLATA KUMAWAT, AIR 21, IES-2024

I hail from the vibrant city of Bikaner, Rajasthan, where my academic journey began. After schooling, I pursued B.Tech. in Civil Engineering at SKIT, Jaipur the year 2019. Building on this foundation, I earned a Master's in Geotechnical Engineering from IIT Bhubaneswar in 2022. These institutions played a crucial role in shaping my academic and professional aspirations, setting the stage for my journey toward cracking the Indian Engineering Services (IES) examination.

My motivation to prepare for the IES exam was deeply rooted in my desire to utilize my engineering background in a meaningful way. My confidence in my ability to succeed in IES stemmed from the strong academic foundation laid during my B.Tech. years. Being among the toppers in my class further boosted my self-assurance. Solving previous years' IES papers showed me that my preparation was on the right track. To ensure I covered every aspect of the vast syllabus efficiently, I joined coaching, which helped me enhance my accuracy, speed, and revision techniques. Time management and accuracy proved to be the key factors in tackling this challenging exam.

During my B.Tech. years, I was confident that I would crack the IES exam. However, the COVID-19 pandemic disrupted my plans. Exams were canceled or postponed, and there was no clarity on when things would return to normal. To stay connected with my studies, I joined IIT Bhubaneswar for a Master's program, utilizing my strong GATE score.

Despite my intentions, the pandemic posed significant challenges. Restricted to the campus, I couldn't dedicate sufficient time to IES preparation or take the exam during my M.Tech. This period tested my resilience and patience. After completing my master's, I dedicated myself fully to IES preparation but fell short of selection by just 11 marks. Undeterred, I joined the Military Engineer Services (MES) as a Junior Engineer (JE) through SSC. Balancing a full-time job with rigorous exam preparation was difficult, but I managed to study late into the night or early in the morning. Finally, my perseverance paid off, and I secured AIR 21 in IES.

This achievement wouldn't have been possible without the unwavering support of my family and friends. My family stood by me through every challenge, encouraging me to push forward even when the journey seemed daunting. A special mention goes to my B.Tech. batchmates Akshay Katara, Himanshu Sharma and M.Tech. batchmates and dear friend, Pratik Goel, currently a research scholar at IIT Roorkee, who were an incredible pillar of support throughout my preparation.

To all future IES aspirants, my advice is to trust and strictly follow the guidance of your mentors. Their experience and knowledge are invaluable. Given the tough competition and limited seats in IES, it's possible not to crack the exam on your first attempt. However, don't lose hope-learn from your mistakes and work to improve in your next attempt. Focus on eliminating calculation errors, avoiding silly mistakes, managing time effectively, and revising thoroughly. Remember, hard work always pays off, even if the path seems challenging.

Moving forward, I aspire to justify my selection in the IES by giving my 100% contribution to the growth of the department I serve. I aim to utilize my knowledge and skills in various project works to aid in the development of the country. This is not just a career milestone for me but also an opportunity to play a meaningful role in building a better future for our nation.

Vision of Department

To become a discipline of excellence that promotes higher learning and advanced technology to meet current and future challenges of civil engineering industry.

Mission of Department

- Create a conducive environment of quality education and skill development for all round growth.
- Encourage students for higher education, develop research attitude with ethical values for sustainable development.
- Inculcate leadership qualities and professionalism for serving the society.

DEPARTMENTAL ACTIVITIES

Technical Fest 'ICI Fest 2024'

The student chapter of the Indian Concrete Institute organized ICI Fest'24 from November 8th to 10th, 2024, at SKIT Jaipur. The inaugural ceremony was graced by the presence of Shri Jaipal Meel (Director, SKIT College), Dr. Ramesh Kumar Pachar (Principal), Dr. R. K. Jain (Dean), Prof. D. K. Sharma (Head of the Civil Engineering Department), along with the heads of various other departments of SKIT.

The major events of the fest included Brick O Brick, EV Workshop, Bowling Alley, Coordination Clash, Webathon, Drone Workshop, etc. The key highlight of the fest was the 'Expo,' an amalgamation of technical evolution and innovation. Around 3,539 students from various institutions participated in the fest. Mr. Anirudh Mathur was the faculty coordinator of the event.

Student Workshop on 'Building Analysis and Design'

A five-day workshop for students on the topic 'Building Analysis and Design' was organized from September 9th to 13th, 2024. During the workshop, students were taught techniques for earthquake-resistant building design using the ETABS software package. A total of 30 B.Tech. III-year and final-year students participated in the workshop. Mr. Ankur Mishra and Dr. Sunita Tolani were the coordinators of the workshop

Student Workshop on 'MS Excel-Basic to Advanced'

The 'MS Excel: Basic to Advanced' workshop was conducted from November 25th to 29th, 2024. The workshop aimed to equip students with essential skills in Microsoft Excel. It drew participation from 35 enthusiastic students eager to enhance their proficiency in Excel. Dr. Pooja Jain and Dr. J. K. Vyas coordinated the event.

IGBC STUDENT CHAPTER ACTIVITIES

The IGBC Student Chapter seeks to provide a platform for students to engage with industry stakeholders, promote awareness of green buildings, and inspire young individuals to adopt sustainable practices. To support this initiative, student visits were conducted by Mr. Gaurav Gupta, faculty coordinator of the IGBC Student Chapter.

Student Visit to a Session on 'Invest in #cleanairnow'

A student visit to attend a session on 'Invest in #cleanairnow,' organized by the Rajasthan State Pollution Control Board on September 7th, 2024, aimed to raise students' awareness about the importance of clean air and combating air pollution.

Student Visit to an Under-construction Green Building

A visit to the under-construction D2O headquarters (Green Building) and head office was organized on October 23rd, 2024. The visit aimed to raise students' awareness of eco-friendly materials and technologies, IGBC standards, and sustainable design implementation.

NIRMAAN CLUB ACTIVITIES

The NIRMAAN Civil Engineering Club aims to enhance students' experiences in civil engineering and ensure they stay aligned with the latest emerging trends in the field. To achieve this, Dr. Rakesh Choudhary and Mr. Gaurav Gupta, the club coordinators, organized site visit, essay writing, and computer-aided design competitions.

Student Visit to an Under-construction Multistorey Building

A visit to the under-construction building - Commercial-3, Jagatpura was held on November 13th, 2024. The objective of the site visit was to provide students with practical exposure to construction site operations, bridging the gap between theoretical learning and real-world applications.

'Crack the CAD' Competition

On October 23rd, 2024, the 'Crack the CAD' competition was organized for students from all streams. In this activity, students showcased their creativity, critical thinking, and presentation skills through computer-aided design.

Essay Writing Competition

On September 18th, 2024, an essay writing competition on the topic 'Importance of sustainability' was organized. This competition provided a platform for students to express their views on significant issues and reflect on contemporary challenges or innovations.

STANDARDS CLUB ACTIVITIES

The Standards Club aims to educate students about the Bureau of Indian Standards' role in improving quality across services, products, and management. It encourages young talent to enhance their scientific mindset in the fields of quality and standardization. To achieve this, Dr. Pooja Jain, the faculty coordinator of the club, organized several competitions, including a quiz, slogan writing, essay writing, and poster making.

Quiz Competition

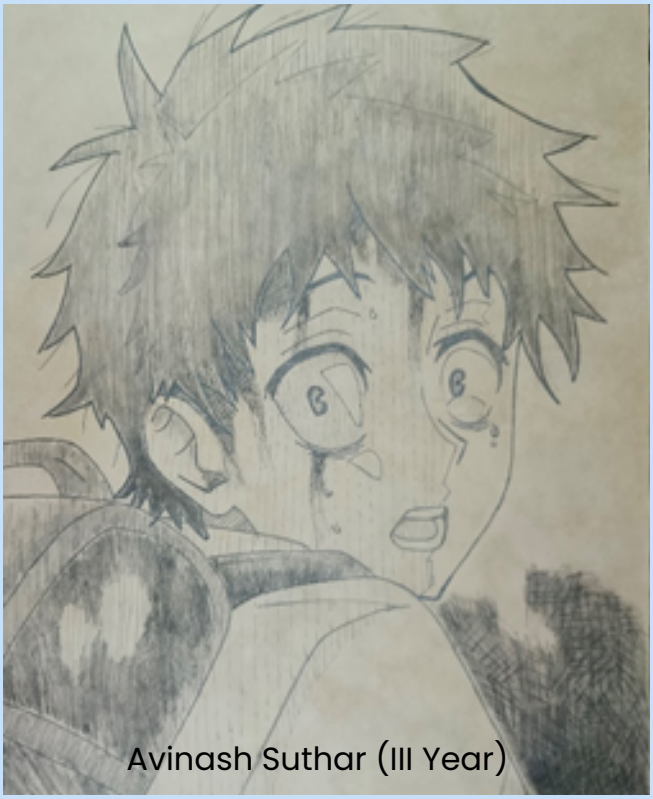
On September 18th, 2024, a quiz competition on the topic 'Bureau of Indian Standards and their role' was organized.

Slogan Writing Competition

An online slogan writing competition was organized on the topic 'Clean India, Healthy India' on September 19th, 2024.

CIVIL ENGINEERING TECHNICAL FORUM (CETF) CLUB ACTIVITIES

CETF club provides a platform for students to enrich their technical knowledge and develop innovative approaches for solutions to civil engineering problems. Activities including quiz competitions and group discussions were organized by Mr Sitaram Saini, faculty coordinator of the club.



Avinash Suthar (III Year)

Quiz Competition

On September 18th, 2024, a quiz competition on the topic 'Civil Engineering Basics' was organized.

Group Discussion

On October 8th, 2024, a group discussion on the topic 'Sustainability Aspects of Civil Engineering' was organized.

Avinash Suthar (III Year)

FACULTY ACHIEVEMENTS

Papers Published in Journal

Faculty Name	Role	Title	Journal
Nishant Sachdeva	Author	Strength and Durability Assessment of Dolomite Mine Overburden for Ground Improvement	Indian Geotechnical Journal-Springer, pp. 1-19, 2024
Saurabh Singh	Author	A Futuristic Approach to Subsurface-Constructed Wetland Design for the South-East Asian Region Using Machine Learning	ACS ES&T Water, Vol. 4, Issue 9, pp. 4061-4074, 2024
Saurabh Singh	Co-author	Prediction of Land Surface Temperature Using Spectral Indices, Air Pollutants, and Urbanization Parameters for Hyderabad City of India Using Six Machine Learning Approaches	Remote Sensing Applications: Society and Environment, Vol. 35, 2024
Saurabh Singh	Co-author	Understanding the multifaceted influence of urbanization, spectral indices, and air pollutants on land surface temperature variability in Hyderabad	Journal of Cleaner Production, Vol. 470, 2024
Saurabh Singh	Co-author	Applicability of Machine Learning to Predict the Flexural Stresses in Jointed Plain Concrete Pavement	Journal of Structural Design and Construction Practice, Vol. 30, Issue 1, 2024

Patent

Faculty Name	Title	Patent Application No.	Date of Grant/ Filed
Anirudh Mathur	Safety Helmet for Civil Engineers	430654-001	16-09-2024

Awards, Honours and any other Academic Distinction

Faculty Name	Achievement
Dr. D. K. Sharma	Nominated as DRC (CE) Member, Rajasthan Technical University, Kota
Anirudh Mathur	Elected as National Governing Council Member, Indian Concrete Institute

Book Chapter Published

Faculty Name	Role	Title	Book Chapter Detail
Dr. Sunita Tolani	Author	Progressive Collapse Analysis of Reinforced Concrete Buildings	Recent Development in Structural Engineering: Select Proceedings of 13th Structural Engineering Convention (pp. 67-74). Singapore: Springer Nature Singapore.
Dr. Sunita Tolani	Co-author	Seismic Performance Evaluation of Base Isolated Building Frame with LRB Under the Action of Main shock and Aftershock	Recent Development in Structural Engineering: Select Proceedings of 13th Structural Engineering Convention (pp. 101-109). Singapore: Springer Nature Singapore.

Paper Presented in Conference

Faculty Name/s	Role	Title	Conference
Dr. Abhishek Jain	Author	Experimental investigation on the effect of cement type on the usage of ceramic waste as fine aggregate in mortars	5th International Conference on Trends and Recent Advances in Civil Engineering (TRACE-2024), Amity University, Uttar Pradesh, India
Ankur Mishra	Author	Analytical Study on the Behaviour of Structural Elements in Adjacent Buildings in Case of Seismic Pounding	7th International Conference on Energy Systems Drives and Automation, Dumka Engineering College, Dumka, Jharkhand, India
Dr.Kishal Lal Jain	Co-author	Sustainable Concrete Mixtures: Analyzing the Impact of Glass and Granite Fines on Microstructure and Mechanical Properties	14th Structural Engineering Convention (SEC-2024), NIT Trichy, Tamil Nadu, India
Dr. Sunita Tolani	Co-author	Effect of Different Types of Bracing Systems on the Seismic Response of RC Building.	14th Structural Engineering Convention (SEC-2024), NIT Trichy, Tamil Nadu, India.
Dr. Sunita Tolani	Co-author	Progressive Collapse Analysis of RC Building	14th Structural Engineering Convention (SEC-2024), NIT Trichy, Tamil Nadu, India..

FDP /Workshop Attended

Faculty Name/s	Title	Organised by	Date
Dr. Pooja Gupta	PHP and MySQL	Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur	8-12 July, 2024
Dr. Pooja Jain, Dr. Jitendra Kumar Vyas, Dr. Kishal Lal Jain, Akash Johari, Dr. Pooja Gupta, Dr. Sunita Tolani	Financial Education a Life Skills under NEP 2020	Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur	9-13 July, 2024
Dr. Pooja Gupta	Subsurface Exploration: Importance and Techniques Involved	NPTEL	July-September, 2024
Dr. Pooja Jain, Dr. Pooja Gupta, Dr. Sunita Tolani	Field Oriented Challenges in Civil Engineering	NIT Jamshedpur	5- 9 August, 2024
Gaurav Gupta, Dr. Pooja Gupta, Dr. Pooja Jain	Accreditation and Outcome Based Learning	R.V.R & J.C. College of Engineering, Andhra Pradesh	23- 27 September, 2024
Sitaram Saini, Dr. Nandini Moondra, Dr. Kishan Lal Jain	Innovation in Sustainable Development for Renewable Energy Integration and Climate Change	Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur	24-26 October, 2024
Sitaram Saini, Dr. Nandini Moondra, Dr. Kishan Lal Jain	Air Pollutants: Implications, Monitoring and Modelling	Indian Space Research Organization (ISRO)	18-22 November, 2024
Nishant Sachdeva, Dr. Pooja Jain	Application of AI in Civil Engineering	K.D.K. College of Engineering, Nagpur	16-21 December, 2024

NPTEL Course Completed

Faculty Name	Course Name	Award
Dr Kishan Lal Jain	Accreditation and Outcome Based Learning	Elite + Silver
Dr Nandini Moondra	Accreditation and Outcome Based Learning	Elite + Gold (Top 5%)
Dr Pooja Gupta	Subsurface Exploration: Importance and Techniques Involved	Elite + Silver (Top 5%)

Paper Reviewed in Conference

Faculty Name/s: Dr Abhishek Jain and Dr Pooja Gupta
Conference: 5th International Conference on Trends and Recent Advances in Civil Engineering (TRACE-2024)
Date &Venue: 15-16 October, 2024, Amity University, Uttar Pradesh, India

Expert Talk Delivered

Faculty Name: Dr Rakesh Choudhary
Title, Date: Repair and Maintenance of Buildings, 31st July 2024 Advanced Concrete Technology, 26th September,17th October, 5th November, 18th November, 3rd December, 16th December 2024
Venue: Engineering Staff Training Institute, Jaipur

STUDENT ACHIEVEMENTS

NPTEL Course Completed

Student Name	Year	Course Name	Award
Reva Verma	IV	Ethics in Engineering Practice	Elite + Silver (Top 5%)
Sapna Meena	IV	Basic Environmental Engineering and Pollution Abatement	Elite + Silver
Nupur Singh Choudhary	IV	Human Resource Development	Elite
Puneet Dadhich	IV	Advanced Reinforced Concrete Design	Elite
Renu Kumari	IV	Developing Soft Skills and Personality	Elite
Seema Lega	IV	Basic Environmental Engineering and Pollution Abatement	Elite
Urvashi Gautam	IV	Ethics in Engineering Practice	Elite
Nupur Singh Choudhary	IV	Public Speaking	Successfully Completed
Puneet Dadhich	IV	Energy Economics and Policy	Successfully Completed
Bhavesh Sharma	III	Soil Mechanics/Geotechnical Engineering I	Successfully Completed
Harshini Gupta	II	Technical English for Engineers	Elite + Silver
Lakshya Foujdar	II	Technical English for Engineers	Elite + Silver
Siddharth Lawaniya	II	Stress Management	Successfully Completed
Bhumika Yogi	II	Engineering Geology	Successfully Completed
Harshini Gupta	II	Engineering Geology	Successfully Completed

Sports

Student Name	Year	Event Name	Prize Won
Kunal Singh Rathore (Captain-SKIT Basketball Team)	IV	RTU Intercollege Basketball Tournament-2024	1st Prize
Dinesh Sharma	IV	RTU Intercollege Volleyball Tournament-2024	1st Prize
Ritish Thakur	IV	RTU Intercollege Volleyball Tournament-2024	1st Prize
Manoj Choudhary	III	RTU Intercollege Volleyball Tournament-2024	1st Prize
Ayan Khan	III	RTU Intercollege Basketball Tournament-2024	1st Prize
Rinku Pakhru	III	BITS Pilani Cricket Tournament-2024	2nd Prize
Sahil Kumar	III	BITS Pilani Cricket Tournament-2024	2nd Prize

Winners-RTU Intercollege Basketball Tournament-2024

2nd Position- BITS Pilani Cricket Tournament-2024

Winners-RTU Intercollege Volleyball Tournament-2024

Placements

Student Name	Year	Company Name
Nikhil Garg	IV	Axestrack
Saarthak Chopra	IV	Design2Occupancy
Urvashi Gautam	IV	Design2Occupancy

ALUMNI ACHIEVEMENTS

Hemlata Kumawat (2015-2019)
AIR-21, Indian Engineering Services (IES-2024)

Abhishek Moond (2019-2023)
Post Graduate Engineer Trainee (NICMAR) with Larsen & Toubro Limited

Akanksha Foujdar (2019-2023)
Fellowship position in the NPTEL Post Baccalaureate/Pre Doc Fellowships program at IIT Roorkee
Project:
Designing nano-enabled water-warriors and their optimization for complex environmental Conditions

Nature's Beauty:
Birds Through the Eyes of
Ankur Mishra
(Assistant Professsor-CE)

Himanshu Saini
(2023-27 Batch)

Sustainable Use of Construction Materials in Civil Engineering

As our world becomes increasingly aware of environmental challenges, sustainable practices in civil engineering have gained particular importance. For college students studying this field, understanding how to use construction materials sustainably is crucial for shaping a greener future. By adopting various strategies, engineers can minimize waste, reduce carbon emissions, and promote the efficient use of resources.

Sustainable construction begins with the selection of materials. One of the most effective approaches is choosing recycled or reclaimed materials. For instance, using recycled concrete aggregates instead of virgin materials not only conserves resources but also reduces the amount of construction waste sent to landfills. Additionally, recycled steel and reclaimed wood are excellent options that can significantly lower the environmental impact of new construction projects.

Another critical aspect is the assessment of a material's lifecycle. Civil engineers should consider the entire lifecycle - from production to disposal - when making material choices. This approach, known as Life Cycle Assessment (LCA), helps identify the environmental impact associated with each material. It encourages the selection of materials that are not only energy-efficient to produce but also recyclable or biodegradable at the end of their life.

Moreover, utilizing materials that are locally sourced can help reduce carbon footprints significantly. Importing materials often involves extensive transportation, resulting in higher greenhouse gas emissions. By using local materials, engineers can support the local economy while minimizing transport-related emissions. This practice can also enhance community ties and engage local labor, creating a more sustainable and supportive economic framework.

Engineers can also leverage innovative materials that possess sustainability attributes. For example, the use of geopolymers offers an alternative to traditional Portland cement, which is responsible for a significant share of global carbon emissions. Geopolymers are made from industrial by-products, like fly ash or slag, and use much less energy in their production. Additionally, incorporating bio-based materials such as bamboo, straw, and hemp in construction fosters sustainability through rapid growth rates and minimal environmental impact.

Education plays a vital role in fostering sustainable practices among future civil engineers. As students, it's essential to understand the principles of sustainability not only theoretically but also in practical applications. Engaging in workshops, seminars, and projects focused on sustainable construction helps instill these values early in one's career. Collaborative projects, internships, or research focused on innovative sustainable materials can provide hands-on experience, preparing students to implement these practices in their future careers.

In conclusion, as you immerse yourself in your studies, take to heart the importance of sustainability in the use of construction materials. By focusing on recycled content, local sourcing, lifecycle assessments, and innovative materials, you can significantly contribute to the building of a more sustainable future in civil engineering. Your efforts can make a meaningful impact, paving the way for responsible engineering practices that safeguard our environment for generations to come.

Department of Civil Engineering

SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY, MANAGEMENT & GRAMOTHAN

(Accredited by NAAC with A++ Grade)

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