

SANWAD

VOLUME 1

ISSUE 2



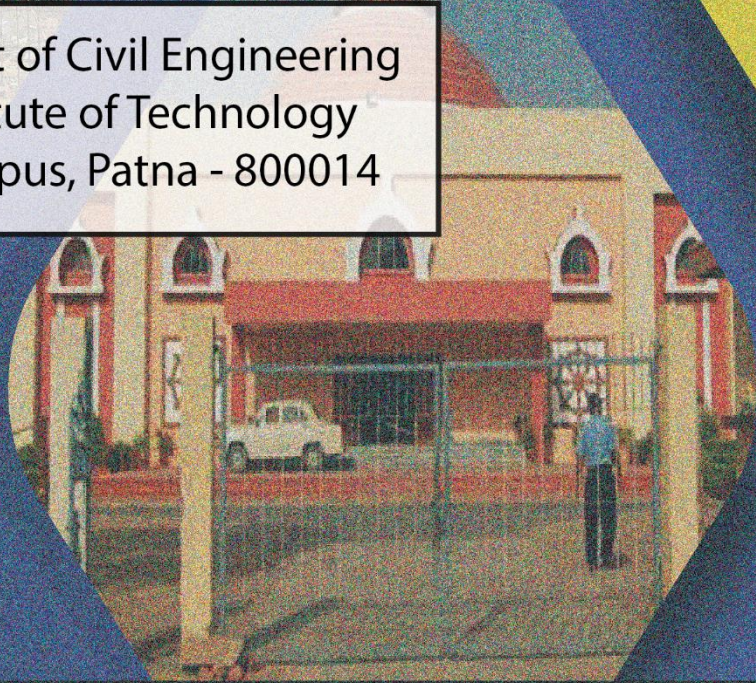
SANWAD

VOLUME 1

ISSUE 2



Department of Civil Engineering
Birla Institute of Technology
Patna Campus, Patna - 800014



Departmental Profile

The Department of Civil Engineering at BIT Off-Campus (Patna) was formally established in 2007 with a vision to create an impact on society through technology-based training, innovation, and service. Civil Engineering is a professional engineering discipline that deals with the design, construction, and maintenance of the physical and naturally built environment, including works like roads, bridges, canals, dams, and buildings.

Presently, the department offers 4-years B.Tech. programme with an average intake of 60 per year. B.Tech. programme in Civil Engineering envisages providing students with a good understanding of civil engineering solutions in global, societal, and environmental development. Student contexts are consistent with the principles of sustainability and given very good exposure to modern tools such as Engineering Graphics, AutoCAD, StaadPro, MATLAB, GIS, etc. It embraces Architectural Planning, Structural and Pavement Design, Construction and Infrastructure Management, Geotechnical, Environmental, Water Resources, and Hydraulic Engineering. The course also gives importance to research-based projects and prepares students for further research, in addition to making them ready to satisfy the current needs of the industry.

Vision of the Department

- To develop quality intellectuals through education, research, and motivation, so that they can bring a positive contribution to society, in the areas of Civil and Environmental Engineering.

Mission of the Department

- To develop professional skills through quality education and research.
- To outreach various sectors of society through interdisciplinary programmes and practice-oriented approach.
- To create dynamic, logical, and effective leaders with inspiring mindsets.

EDITORIAL TEAM

EDITOR-

Dr. Kumari Sweta

Assistant Professor (Visiting),
Civil Engineering Department



TRANSLATOR-

Ms. Bandana Mahto

(HINDI)

Assistant Professor,
Civil Engineering Department



TRANSLATOR -

Dr. Angshuman Mandal

(BANGLA)

Assistant Professor,
Department of Civil Engineering



Editorial Writer -

Madhuri Raj,

B. Tech Civil Engineering student



Creator -

Rishav Prasad,

B. Tech Civil Engineering Student



FACULTY PROFILE



Prof. (Dr.) Sudeshna Chakravarty

Professor,
Ph.D. (BESU, Shibpur)



Dr. Anish

Assistant Professor and In-charge,
Ph.D. (NIT PATNA)



Dr. Angshuman Mandal

Assistant Professor,
Ph.D. (IIT Kharagpur)



Mrs. Bandana Mahto

Assistant Professor,
M.Tech. (IIT Guwahati)



Dr. Kumari Sweta

Assistant Professor (Visiting),
Ph.D. (IIT Patna)

FACULTY PUBLICATION

Conference				
S.No.	Authors Name	Title of Paper	Year	Conference
1	Indra Vijay Singh, Anish , Subhanshu Raj, Himanshu Raj	Investigation of Different Statistical models for performance evaluation of Self-Compacting Concrete	2024	International conference on Advancement in Natural Sciences, 24-25 February 2024, Sri Ramaswaroop Memorial University, Lucknow
2	Bandana Mahto , Premlata Singh and Baboo Rai	Assessment of groundwater quality in Patna district, Bihar, India using the Water Quality Index method (CCME method)	2024	International Conference on Advancement in Natural Sciences: Vedic to Modern Era (ICANSVME - 24), 22 - 24 February 2024, Shri Ramswaroop Memorial University, Lucknow, U.P.
3	Bandana Mahto , Premlata Singh, Prachi Krishna, Mahi Sharan, Swati Kumari, Md. Farhad and Himanshu Raj	Evaluation of Drinking Water Quality and its Influence on Resident's Health at BIT Mesra, Patna Campus, Bihar	2024	International Conference on Advancement in Natural Sciences: Vedic to Modern Era (ICANSVME - 24), 22 - 24 February 2024, Shri Ramswaroop Memorial University, Lucknow, U.P.

4	Bandana Mahto, Premlata Singh, and Baboo Rai	Assessment of groundwater quality in Patna district, Bihar, India using the Weighted Arithmetic Water Quality Index (WAWQI) method	2024	International Conference on Recent Trends in Engineering and Sciences (RTES - 2024), 29 - 30 March 2024, Birla Institute of Technology Mesra, Ranchi, Jharkhand.
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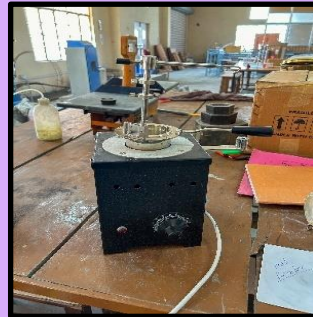
Book Chapter

S.No.	Authors Name	Title of Chapter	Year	Book Name	Page No.
1.	Dayanand Sharma, Nandini Moondra, Ranjeet K Bhartee, Anudeep Nemaa, Kumari Sweta, Manoj K Yadav, Nityanand S Maurya	Processing and Recycling of Plastic Wastes for Sustainable Material Management	2024	Plastic Waste Management: Methods and Applications	89-116

Journal Publication

S.No.	Authors Name	Title of Paper	Year	Volume	Issue	Page No.	DOI No.
1.	Mohit Kumar, Ayush Kumar Choudhary, Angshuman Mandal	Size Optimization of Truss Structures Based on Genetic Algorithm by Developing Single-point Crossover with Bit-wise Mutation Using FORTRAN Programming	2024	2	4	476-773	https://doi.org/10.47392/IRJAEH.2024.0108

LIST OF EQUIPMENTS



Tar Viscometer Apparatus

Dynamic Cone Penetrator

Flash and Fire Point

Temperature Curing Tank



Blain Air Apparatus

Frame Deflections and Reactions

Ring and Ball Apparatus

Jaw Crusher



Heating Plate

Bitumen Extractor

Density Basket

ATHLETIC MEET



Our college hosted its annual athletic meet in January 2023. The event showcased the talent and sportsmanship of students. The track and field meet took place over three days. The meet fosters a spirit of healthy competition and camaraderie among participants. The athletic meet included an array of events such as sprints, long-distance races, relays, shotput, javelin throw, discuss throw and many more. Each event witnessed enthusiastic participation from students across all departments.

Achievements of the Civil Department Students:

Name & Roll No.	Name of Event	Position
Sumit Kumar (BTECH/15238/20)	Shotput Discus Throw Javelin Throw Relay Race	Silver (2 nd) Gold (1 st) Gold (1 st) Gold (1 st)
Ranveer Singh (BTECH/15057/20)	Shotput	Bronze (3 rd)
Priyanshu Kumar (BTECH/15065/20)	Tug of War	Gold (1 st)
Saurav Kumar (BTECH/15066/20)	Tug of war	Gold (1 st)



EXPERT LECTURE



On February 13, 2024, the Civil Engineering Society of our institute organised an expert lecture by Er. Santosh Kumar, Chief Engineer of the Building Construction Department, Patna, Bihar. The lecture directed on the National Building Code (NBC) of 2016 and the Bihar Building Byelaws of December 2014, providing an in-depth analysis of these critical regulatory frameworks governing construction practices.

Er. Santosh Kumar began by outlining the key provisions of the NBC 2016, emphasizing its role in standardizing building construction practices across India. He detailed the code's sections on structural safety, fire and life safety, building services, and sustainable development. The discussion then shifted to the Bihar Building Byelaws of December 2014, with Er. Kumar explaining their specific applications within the state. He provided insights into the unique challenges faced by the Bihar construction industry and how the byelaws address local needs and conditions.

The event was highly informative and beneficial for both students and professionals, enhancing their understanding of the regulatory landscape in civil engineering.

TECHNIKA



Our collage BIT Patna organised its most awaited Techno-Cultural fest "Technika'24" from 17th March to 20th March 2024. The participants from within and outside the Institute were cordially welcomed to participate and give their best in the competitive events.

The primary objective of "Technika'24" was to celebrate the technical and cultural aspects of society among inter and intra institution participants. Events such as Bob the Builder & Quake Craft were organized, providing students with opportunities to showcase their skills, and engage in collaborative and competitive activities.

Name & Roll No.	Name of Event	Position
Priyanshu Kumar (BTECH/15065/20)	Quake Craft	Gold (1 st)
Subhanshu Raj (BTECH/15072/20)	Quake Craft	Gold (1 st)
Himanshu Raj (BTECH/15071/20)	Quake Craft	Gold (1 st)



PRAKRIDA



Our college, BIT Patna, organized Prakrida, its annual inter-college sports fest, from March 18 to March 20, 2024. This event welcomed students from various colleges to participate in a diverse array of sports, including Chess, Carrom, Football, Cricket, Volleyball, Basketball, Lawn Tennis, table tennis etc.

Prakrida provided a vibrant platform for students to showcase their athletic abilities, fostering a spirit of healthy competition and camaraderie. The fest not only highlighted the sportsmanship and skills of the participants but also strengthened the bonds between institutions, enriching the cultural and athletic fabric of the college community.



Name & Roll No.	Name of Event	Position
Priyanshu Kumar (BTECH/15065/20)	Chess	(Participated)
Sumit Kumar (BTECH/15238/20)	Badminton Carrom Chess	Gold (1 st) (Participated) (Participated)
Vivek Kumar Singh (BTECH/15217/20)	Lawn Tennis (Collegiate Category) Lawn Tennis (Open Category)	(Runner Up) (Participated)
Saurav Kumar (BTECH/15066/20)	Football	Silver (2 nd)
Kumar Aniket (BTECH/15054/20)	Cricket	Gold (1 st)



RELEASE OF DEPARTMENTAL DIGITAL NEWSLETTER “SANWAD”



On 11 March 2024, the Civil Engineering Society proudly hosted the release of its Departmental Digital Newsletter, “Sanwad.”

“Sanwad” aims to serve as a comprehensive platform for sharing departmental news, research highlights, project updates, and student achievements. The release ceremony featured keynote speeches from esteemed faculty members, and presentations showcasing innovative student projects. By bridging the gap between academia and industry, “Sanwad” endeavours to inspire and inform its readers, promoting a culture of continuous learning and professional development.

Overall, the launch of “Sanwad” represents a significant step forward in enhancing communication, fostering a sense of community, and promoting the professional development of all members of the Civil Engineering department. The newsletter is poised to become an essential resource for anyone interested in the field of civil engineering, offering a blend of academic rigor and practical relevance.

RELEASE OF CIVIL ENGINEERING SOCIETY MAGAZINE “SVADHAYAYA, Vol. 5”



On 11 March 2024, The Civil Engineering Society proudly announced the release of its magazine, “Svadhayaya, vol.5”, a vibrant showcase of student talent and creativity. This edition features a rich collection of articles exploring cutting-edge engineering topics, alongside a vivid array of pictures and photographs capturing the dynamic life of civil engineering students. Additionally, the magazine includes drawings and designs, highlighting the artistic skills and technical prowess of the contributors. The magazine also contains diverse ideas on innovative science, heartfelt poems, and reflective thoughts, offering a holistic view of the contributors’ creativity. Faculty members have also enriched the magazine with their expert contributions, providing valuable insights and perspectives. “Svadhayay ” not only serves as an academic and creative outlet for both students and faculty but also stands as a testament to their dedication and passion for civil engineering, fostering a sense of community and inspiring future innovations in the field.

HOLI MILAN



On 21st March 2024, The Civil Engineering Society organized Holi Milan ceremony, a joyous prelude to the festival of Holi, bringing together faculty and students in a vibrant celebration. The event was marked by lively interactions, laughter, and the

traditional cutting of a festive cake, symbolizing unity and the spirit of togetherness. Both teachers and students participated enthusiastically, engaging in playful exchanges of colours, creating a memorable atmosphere filled with joy. The celebration created a, fostering sense of community and inclusivity. Photographs were taken throughout the event, capturing the vivid colors, cheerful faces, and heartwarming moments, preserving the essence of this special gathering. Holi Milan not only celebrated the festival but also strengthened the bonds within the civil engineering community.



FAREWELL CEREMONY

On April 18, 2024, the juniors of the Civil Engineering Department organized an exceptional farewell ceremony for the final year students. The event was a heartfelt tribute, meticulously planned and executed to honour the seniors' hard work, dedication, and accomplishments. Through a series of engaging speeches and memorable activities, the juniors celebrated the remarkable journey of their seniors and wished them all the best for their bright futures and continued accomplishments. This farewell not only highlighted the academic and personal achievements of the graduating batch but also strengthened the bonds within the department, reflecting a deep sense of community and respect. The evening concluded with a group photo, capturing the shared joy and experience that define the Civil Engineering Department.



PROJECT PRESENTATION

On May 7th, the final-year students of the Civil Engineering Department were actively engaged in presenting their major projects for final submission. The presentations took place under the supervision of faculty members as well as an external guide. As part of their final semester requirements, various groups were assigned diverse projects by the faculty, each reflecting a specific area of civil engineering. During the presentations, the students showcased the outcomes of their research, demonstrating the comprehensive knowledge and insights gained throughout their projects. They utilized various tools and methodologies, presenting detailed reports, models, and simulations to effectively communicate their findings. The project presentations were conducted successfully, marking a significant milestone in the students' academic journey as they worked towards earning their B. Tech degrees.

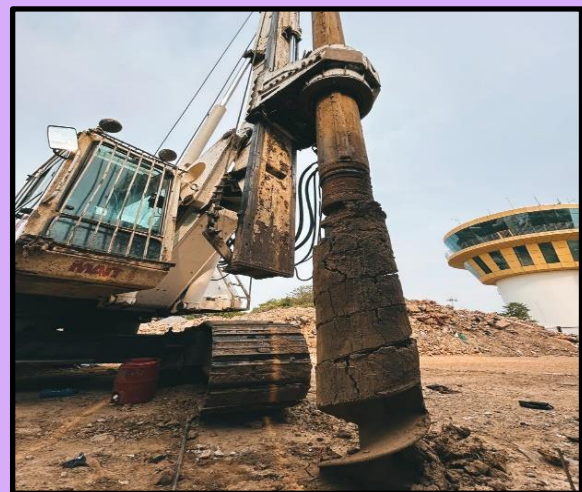


3rd YEAR SUMMER TRAINING GROUP 1

Civil engineering students in their third year from the Birla Institute of Technology (BIT), Patna, started their summer training program at the Infrastructure Development Authority (IDA), Patna. This immersive experience provided them with a unique opportunity to apply their theoretical knowledge to real-world projects.

As part of their training, they were actively involved in the construction of Unity Mall near Patna airport. This project included comprehensive work on the water supply and sanitary system, electrical installation, firefighting system, fire alarm system, etc. The students gained invaluable hands-on experience through participation in various phases of the project, including surveying, quality control, and observation of the construction process.

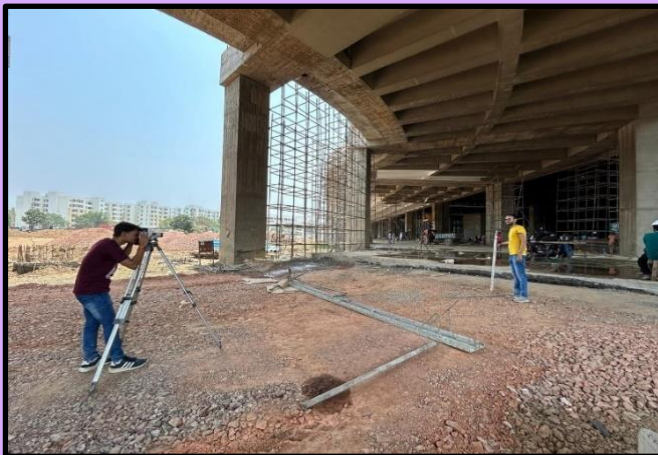
This practical exposure helped them in enhancing their technical skills and preparing them for successful careers in civil engineering.



3rd YEAR SUMMER TRAINING GROUP 2

A group of students from the Civil Engineering Department at BIT Patna recently commenced their internship with the Airports Authority of India. This experience offered them a unique opportunity to translate their theoretical knowledge into practical application. During their training, they were actively engaged in the construction of the terminal building at Patna Airport, contributing to a significant infrastructure project. Their tasks included operating a total station, conducting auto levelling, performing core cutting, and executing compression tests on various grades of cement, as well as determining the load at break point.

Additionally, they were involved in site inspections, quality control procedures, and safety assessments, ensuring compliance with engineering standards and regulations. This hands-on exposure significantly enhanced their technical skills, problem-solving abilities, and understanding of construction management, providing invaluable real-world experience that will benefit their future careers.



SPORTS AND GAMES

Name & Roll No.	College/ Intercollege	Name of Event	Position
Ranveer Singh	College	Athletic Meet'24 Shotput	Bronze (3 rd)
Sumit Kumar	College	Athletic Meet'24 : Shotput Discus Throw Javelin Throw Relay Race	Silver (2 nd) Gold (1 st) Gold (1 st) Gold (1 st)
Sumit Kumar	College	Prakida'24 (BIT Patna) : Badminton Carrom Chess	Gold (1 st) (Participated) (Participated)
Priyanshu Kumar	College	Tug of War (Athletic Meet'24) Chess (Prakida'24) Quake Craft (Technika)	Gold (1 st) (Participated) Gold (1 st)
Subhanshu Raj	College	Quake Craft (Technika)	Gold (1 st)
Saurav Kumar	College	Football (Prakida'24) Tug of war (Athletic Meet'24)	Silver (2 nd) (Gold (1 st))
Himanshu Raj	College	Quake Craft (Technika)	Gold (1 st)
Kumar Aniket	Intercollege (Cricket)	Prakida'24 (BIT Patna)	Gold (1 st)
Vivek Kumar Singh	Intercollege	Lawn Tennis (SANGRAM '24 IIT ROORKEE)	(Participated)

Name & Roll No.	College/ Intercollege	Name of Event	Position
Yash Jha	College	Bob The Builder (Technika)	Gold (1 st)
		Quake Craft (Technika)	Silver (2 nd)
Manish Kumar	College	Bob The Builder (Technika)	Gold (1 st)
		Quake Craft (Technika)	Silver (2 nd)
Ashu Kumar	College	Bob The Builder (Technika)	Gold (1 st)
		Quake Craft (Technika)	Silver (2 nd)
Spandan Roy	College	Bob The Builder (Technika)	Silver (2 nd)
Tushar Gupta	College	Bob The Builder (Technika)	Silver (2 nd)
Ashish Kumar	College	Bob The Builder (Technika)	Silver (2 nd)
Khushi Kumari	College	Bob The Builder (Technika)	Bronze (3 rd)
Shruti	College	Bob The Builder (Technika)	Bronze (3 rd)

CONSULTANCY

Sl. No.	Title of Project	PI's Name	Amount
1	Material Testing & Concrete Mix Design (M25 for Touch Pile & M25 for other structures)	Dr. Anish Ms. B. Mahto Dr. A. Mandal Dr. K. Sweta	₹ 1,13,340.00
2	Material Testing & Concrete Mix Design (M25 & M40 for structural concrete works)	Dr. Anish Ms. B. Mahto Dr. A. Mandal Dr. K. Sweta	₹ 1,15,050.00

PLACEMENT



Priyanshu Kumar,
BTECH/15065/20 placed in Chryso
India Pvt. Ltd. (SAINT GOBAIN
CONSTRUCTION)



Satvik Nayan,
BTECH/15077/20 placed in
TECHTURE



Arya Prashar,
BTECH/15208/20 placed in
TECHTURE



Sumit Kumar,
BTECH/15238/20 placed in
Chryso India Pvt. Ltd. (SAINT
GOBAIN CONSTRUCTION)



Himanshu Raj,
BTECH/15242/20 placed in
Pacific Consultant



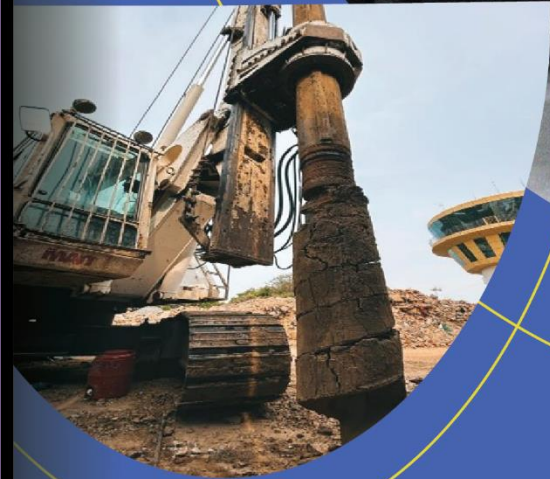
Swati Kumari,
BTECH/15074/20 placed in
Pacific Consultant



Mahi Sharan,
BTECH/15070/20 placed in
Berger Paint.

GRADUATED STUDENTS (2020 Batch)





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FEB 2024