

GOVERNMENT POLYTECHNIC ARARIA

SCIENCE, TECHNOLOGY AND TECHNICAL EDUCATION DEPARTMENT

GOVERNMENT OF BIHAR



Civil Engineering Department Newsletter



Academic & Technical Highlights - Student Achievements - Projects - Activities

ABOUT THE INSTITUTE

Government Polytechnic Araria was established in 2018 by the Science, Technology and Technical Education Department with the aim of setting up an effective technical education system in Bihar. The institute is described in the source magazine as having modern laboratories, smart classrooms, a library, hostel and sports facilities. Regular workshops, industrial visits and training programmes provide students with real-world exposure.

FROM THE MAGAZINE TEAM

Welcome to “NAVNIRMAN”, the official magazine of the Department of Civil Engineering, Government Polytechnic Araria. The magazine provides a platform for academic achievements, technical knowledge, project work, innovative ideas and creative contributions of students and faculty.

DISCLAIMER

The views, opinions, articles, photographs, illustrations and creative works are those of the respective contributors and do not necessarily reflect the views or policies of the Department, Institute or Editorial Board.

VISION & MISSION

Institute Vision: To create self-reliant and innovative engineers with strong technical skills to support society, industry, and economic growth.

Institute Mission: To provide quality technical education, develop leadership and communication skills, and encourage teamwork, lifelong learning and innovation to effectively meet engineering challenges.

Department Vision: To advance the Civil Engineering Program at GP Araria through focused education, innovation, and contributions to national and international infrastructure development.

Department Mission

M1 — Impart sound theoretical and practical knowledge in civil engineering that prepares students to meet industry requirements and support infrastructure development.

M2 — Promote experiential learning through laboratory work, field exposure and problem-based activities, enabling students to solve real-life civil engineering problems.

M3 — Develop communication, teamwork and leadership skills, fostering professional ethics and lifelong learning at diploma level.

PEOs, POs & PSOs

PEO1: Graduates will be able to design, analyse and mathematically model civil engineering projects, contributing to sustainable infrastructure development.

PEO2: Graduates will engage with academia, industry and government organizations, applying technical knowledge to foster effective professional collaborations.

PEO3: Graduates will pursue lifelong learning, participate in professional and multicultural networks, and contribute to the advancement of civil engineering at national and global levels.

PO Highlights:

PO1: Basic and discipline-specific knowledge: Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

PO2:Problem Analysis: : Identify and analyse well-defined engineering problems using codified standard methods.

PO3:Design/Development of solutions: : Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

PO4:Engineering tools, experimentation and testing: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

PO5:Engineering practices for society, sustainability and environment: Apply appropriate technology in context of society, sustainability, environment and ethical practices.

PO6:Project management: Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well- defined engineering activities.

PO7:Life-long learning: : Ability to analyze individual needs and engage in updating in the context of technological changes

PSO1: Students will analyse, design and innovate civil engineering infrastructure components, demonstrating comprehensive understanding of core principles.

PSO2: Students will recommend sustainable practices and manage construction resources efficiently, demonstrating a strong understanding of environmental and societal impacts.

FROM PRINCIPAL'S DESK



Er. Abhijeet Kumar
Principal-in-charge
Government Polytechnic Araria

Dear Students, Parents and Esteemed Visitors,

On behalf of the institute, I welcome you all to Government Polytechnic Araria. We are committed to providing an education that prepares students for the dynamic and evolving technical world. Our learning environment encourages innovation, critical thinking and practical skills.

Our faculty and facilities support holistic development by combining technical knowledge with soft skills, leadership qualities and ethical values. Advanced laboratories, computer facilities and a language lab provide opportunities to explore new ideas and develop skills required for an evolving world.

The institute also encourages innovation and entrepreneurship through its innovation and startup initiatives and gives importance to sports, yoga and co-curricular activities for overall development.

FROM HOD'S DESK



Er. Aamile Islam

Lecturer • HOD I/C, Department of Civil Engineering

The Department of Civil Engineering brings together knowledge, innovation and excellence to shape future engineers. The department emphasizes academic excellence, practical exposure, project-based education, field visits, internships, seminars, workshops and technical competitions.

Beyond technical knowledge, the department strives to develop professionalism, leadership, teamwork, creativity and social responsibility, while encouraging students to solve real-world problems and contribute to sustainable development.

DEPARTMENT FACULTY

Name	Designation
Er. Aamile Islam	Lecturer / HOD I/C
Er. Abhijit Kumar	Lecturer
Er. Laukush Kumar	Lecturer
Er. Prachi Roy	Lecturer
Er. Md Aquib Ahsan	Lecturer
Er. Md Usman	Lecturer
Mr. Aryan	Lab Instructor
Mr. Rupesh Kumar	Lab Assistant

ACTIVITIES & IN-HOUSE EVENTS

Skill Development Mission at CIPET: CSTS, Hajipur: The source magazine highlights practical, industry-oriented skill development covering areas such as CAD/CAM, CNC machining, testing, product design and manufacturing technologies, along with personality development, communication skills, internships and placement support.

Mental Health Awareness Program

The programme sensitized students about mental well-being, stress management, emotional resilience and maintaining a healthy work-life balance, encouraging self-care and timely professional support.



Blood Donation Camp

The Blood Donation Camp encouraged voluntary donation and social responsibility. Students, faculty and staff participated, with medical professionals ensuring safe and hygienic procedures.



STUDENT'S CORNER

Vastu Shastra

By Saurav Kumar • Civil Engineering

Vastu Shastra is presented as a traditional Indian approach to architecture and design, focusing on harmony between buildings, natural elements and surroundings. In civil engineering and architecture, it may be considered alongside modern engineering principles for aspects such as orientation, ventilation, daylight and space planning.

Noise Control of Building

By Palak Kumari • Civil Engineering

Noise control in buildings involves methods to reduce unwanted sound entering, leaving or travelling within a building. Measures include sound-insulating materials, double-glazed windows, acoustic panels, insulated doors, carpets, false ceilings, vibration isolation, suitable orientation and strategic planning.

Green Concrete

By Purnima Kumari • Civil Engineering

Green concrete is an eco-friendly form of concrete that partially or completely replaces conventional cement or natural aggregates with industrial by-products or recycled materials. Examples mentioned include fly ash, GGBS, silica fume and recycled aggregates, supporting lower environmental impact and resource conservation.

Energy Dissipation Devices

By Satyam Kumar • Civil Engineering

Energy dissipation devices absorb and dissipate energy generated by earthquakes, strong winds and other dynamic loads. Examples include viscous dampers, friction dampers, metallic yield dampers, tuned mass dampers, viscoelastic dampers and base isolation systems.

Dynamic Structure

By Ambesh Kumar Choudhary • Civil Engineering

Dynamic structures are designed to resist forces that vary with time, including earthquakes, strong winds, waves, moving vehicles and machinery. Their design considers mass, stiffness, damping and natural frequency, often using vibration-control and seismic-design techniques.



STUDENT PROJECT PROGRAM

Major project themes documented in the source magazine include earthquake-proof building, suspension bridge, drip irrigation, rainwater harvesting, wastewater treatment plant, septic tank design for 500 students, micro-irrigation (drip/sprinkler), and junction planning for roads.

Project	Major Theme
1	Earthquake Proof Building
2	Suspension Bridge
3	A Report on Drip Irrigation
4	Rain Water Harvesting
5	Wastewater Treatment Plant
6	Design of Septic Tank for 500 Students
7	Rain Water Harvesting
8	Junction Planning for Road
9	A Report on Rain Water Harvesting
10	Micro Irrigation: Drip / Sprinkler Irrigation

NEW STRENGTH INTRODUCED

The source magazine highlights civil engineering laboratory/testing equipment including flash and fire point test apparatus, aggregate impact test, bitumen/laboratory asphalt mixer, hot air oven, specific gravity and water absorption apparatus, digital compression testing machine, ductility test, standard penetrometer, vibration table, tile abrasion testing machine and Los Angeles abrasion testing machine.



STUDENTS PARTICIPATION, ACHIEVEMENTS & PLACEMENT

The source magazine records placement/higher-study outcomes for Civil Engineering students across multiple passing sessions. The following entries are reproduced from the supplied magazine content.

Student	Session	Outcome
Sumit Kumar	2022-25	L&T;
Satyam Kumar	2022-25	Higher Degree
Ravi Prashant Gupta	2022-25	Higher Degree
Palak Kumari	2022-25	Higher Degree
Suraj Kumar	2022-25	Higher Degree
Anshu Kumar	2022-25	Higher Degree
Satyam Kumar Muskan	2022-25	Higher Degree
Vikash Kumar Mishra	2021-24	BARC
Chandan Kumar	2021-24	Larsen & Toubro
Aditya Kumar Singh	2021-24	Tata Passengers
Chhotu Kumar Das	2021-24	KP Reliable Technique Pvt. Ltd.
Raj Kumar Chaudhary	2020-23	Macron Ligo Services Pvt. Ltd.
Amit Kumar	2020-23	Macron Ligo Services Pvt. Ltd.
Harsh Raj	2020-23	Macron Ligo Services Pvt. Ltd.

EDITORIAL BOARD

Chief Editor: As per the supplied NAVNIRMAN material, the magazine is presented as a collective departmental publication supported by faculty and student contributors.

Faculty Contributors: Department of Civil Engineering faculty members listed in the source include Er. Aamile Islam, Er. Abhijit Kumar, Er. Usman, Er. Prachi Roy, Er. Md Aquib Ahsan and Er. Laukush Kumar.

Student Contributors: The source magazine features contributions from Saurav Kumar, Palak Kumari, Purnima Kumari, Satyam Kumar and Ambesh Kumar Choudhary, among others.

NAVNIRMAN

Department of Civil Engineering
Government Polytechnic Araria

“Learning, Innovation, Practical Skills and Sustainable Infrastructure”

Thank You.