

March 2023

Kotarpur & Piranha Water Treatment Plants

Civil Engineering Department PDEU
Industrial Orientation Report
Date 18-03-2023



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About Civil Engineering @ PDEU Gandhinagar

Civil Engineering is considered to be the most versatile branch among all the engineering branches. The Department of Civil Engineering since its formation is committed to research and development in civil engineering. The vision of the department is to give exposure to budding technocrats to various challenges in the profession.

The department offers courses at the undergraduate level, graduate level, and Ph.D. doctorate level. The main areas of research include Project Management, Construction Management, Geotechnical Engineering, Structural Engineering, Hydrology, GIS and GPS systems, Environmental Engineering, Concrete Technology, and Transportation Engineering. The department also handles consultancy works and projects in the above-mentioned areas.

Mission and Vision

To prepare competent Civil Engineers through technovations, research and excellence in education for serving evolving human needs and infusing sustainable developments.

Mission

1. To ignite and energize young minds and arm them with the Roots of Knowledge and Wings of Creativity.
2. To excel as a Problem Solver by promoting and supporting cutting-edge research, innovations, and excellence in education.
3. To Unfold new realms of Civil Engineering addressing the needs of the Industry and Society for sustainable development.

Water Treatment Plants

An Industrial Orientation Trip was organized for the 4th Semester students of the Civil Engineering Branch to Kotarpur Drinking & Piranha Waster Water Treatment Plants.

Event Date: 18th March 2023

Faculty Coordinators: Dr Anurag Kandya, Dr Shobhit Chaturvedi, Dr Vinayak Malaghan, Dr Shabiimam MA, Dr Ankit Deshmukh

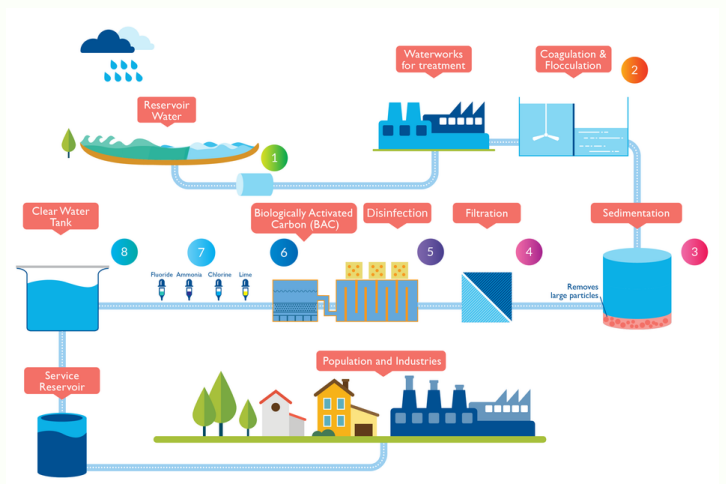
Lab Staff: Mr. Shailesh Patel, Mrs Nirva Patel

Civil Engineering Department extends heartfelt gratitude to Ahmedabad Municipal Corporation for giving this unique opportunity to students and faculty alike.

Water Treatment Plant

A water treatment plant follows a series of steps to ensure the provision of clean and safe water. Firstly, coagulation and flocculation involve adding chemicals to bind together impurities in the water, forming larger particles known as floc. These particles settle during sedimentation. Filtration is then employed to remove smaller particles and remaining impurities. Disinfection follows, where disinfectants are added to eliminate bacteria and viruses. pH adjustment and stabilization may be necessary to meet desired standards. Additional advanced treatment processes, such as membrane filtration or activated carbon adsorption, may be employed if needed.

The treated water is stored before distribution. Throughout the process, constant monitoring and testing are conducted to ensure water quality. The specific techniques and technologies employed depend on plant design, source water quality, and local regulations. Ultimately, the goal is to provide clean and safe water for consumption and other uses.



Waste Water Treatment

A wastewater treatment plant operates through several key stages to effectively treat and clean wastewater. It begins with preliminary treatment, where large debris and solids are removed. Next, primary treatment involves sedimentation tanks to separate heavier solids and floating materials. The wastewater then undergoes secondary treatment, using biological processes such as activated sludge to break down organic matter with the help of microorganisms. Clarification follows, with settling tanks allowing remaining solids to settle as sludge. Tertiary treatment, if needed, includes additional filtration, disinfection, and nutrient removal. Sludge treatment reduces volume and stabilizes the collected sludge through processes like anaerobic digestion.

The treated water, known as effluent, can be discharged or reused based on regulations and requirements. Throughout the process, monitoring and adjustments are made to ensure efficient treatment. Specific technologies and processes depend on plant design and wastewater quality. Ultimately, wastewater treatment plants play a vital role in purifying wastewater and protecting the environment.



WATER TREATMENT PLANTS

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Event Summary

Civil Engineering Students enjoyed this unique opportunity to learn

Civil Engineering Students enjoyed this unique opportunity to explore and learn –

1. The different technologies involved in Potable Water Treatment Plant
2. The different technologies involved in Waste Water Treatment Plant
3. Operation and Control of Water Treatment Plants
4. Safety Procedures to be Adopted at Water Treatment Plants
5. Quality Standards needed for treated Potable and Waste Water

Both these visits will help the students during the higher semesters when they study the design and control of Potable and Water Treatment Plants in the Environmental Engineering subject.

Event Media

The Video of this One Day long Industrial Orientation was uploaded on Civil Engineering PDEU's official YouTube channel.



Click on the Photograph to watch the video

Event Photographs



Event Photographs



Event Coordinators



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