



Evidence(s)

THE-Impact Ranking



HEI: TRIDENT ACADEMY OF TECHNOLOGY
COUNTRY: INDIA
WEBSITE: <https://tat.ac.in/activities/>
15.4.1 WATER DISCHARGE GUIDELINES AND STANDARDS

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Plate 1- Solar powered 150 KLD (Kilolitres per Day) water treatment plant



Plate 2- Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) tests



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SAMPLE COLLECTION DATE	SAMPLE COLLECTION SOURCE (BH-1 (STP))	TEMP IN °C	BOD (mg/l)	COD (mg/l)
18/03/24	(do)	25	3.52	6.4
15/04/24	(do)	26	3.4	4.08
23/04/24	(do)	25	3.6	4.32
29/04/24	(do)	26	3.5	4.24
7/5/2024	(do)	22	3.8	4.56
13/05/24	(do)	25	4.2	5.46
20/05/24	(do)	25	4.4	5.7
27/05/24	(do)	25	4.7	5.64
3/6/2024	(do)	26	4.5	5.4
26/09/24				
1/10/2024	BH-1 (STP)	25		8.4

Plate 3- BOD COD Lab Analysis Report

Plate 1- A 150 KLD (Kilolitres per Day) Water Treatment Plant at Trident Academy of Technology is designed to purify and supply 150,000 litres of water daily. The system follows multiple treatment stages, including coagulation, sedimentation, filtration, and disinfection, to ensure the removal of impurities, pathogens, and contaminants. Equipped with advanced monitoring systems for continuous quality control, the plant ensures water meets all health and safety standards. Powered entirely by **solar energy**, it operates as a sustainable model for water purification and reuse, primarily supporting gardening and promoting efficient resource management while contributing to a greener campus and healthier community.

Plate 2- The Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) tests are critical evaluations of wastewater quality at the Sewage Treatment Plant (STP) in Trident College. These tests done weekly wise which determine the level of organic pollutants in water, helping ensure the treated water meets environmental standards before being discharged or reused. BOD measures the amount of dissolved oxygen required by microorganisms to break down organic matter, indicating the degree of organic pollution. COD, on the other hand, assesses the total quantity of oxygen needed to oxidize both organic and inorganic compounds. Regular monitoring of BOD and COD levels ensures that the STP operates effectively, maintaining water quality and supporting sustainability initiatives at Trident College.



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Plate 3- The image is a lab analysis report from Trident Academy of Technology showing Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) measurements from the BH-1 (STP) sample collection source. The report lists sample collection dates, temperatures, and corresponding BOD and COD values across several dates in 2024.

Key observations:

- BOD values range from 3.2 to 4.7 mg/L.
- COD values range from 4.32 to 8.4 mg/L.
- Sampling took place roughly biweekly and monthly.

Trident Academy of Technology operates a 150 KLD water treatment plant for purifying 150,000 litres daily, using processes like coagulation, filtration, and disinfection. The treated water supports gardening and sustainability. Additionally, weekly BOD and COD tests at the sewage treatment plant (STP) measure organic pollutants, ensuring treated wastewater meets environmental standards. BOD indicates organic matter levels by measuring oxygen consumption by microorganisms, while COD measures the oxygen needed to oxidize all compounds. Regular lab analysis shows BOD levels from 3.2 to 4.7 mg/L and COD levels from 4.32 to 8.4 mg/L, maintaining water quality.

Description - Trident Academy of Technology (TAT) has implemented a robust initiative focused on water discharge guidelines and standards to ensure environmental sustainability. Central to this initiative is the operation of a 150 KLD (Kilolitres per Day) water treatment plant, which purifies 150,000 liters of water daily using processes like coagulation, filtration, and disinfection. The treated water is repurposed for gardening, supporting sustainable water usage on campus.

Additionally, TAT performs weekly Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) tests at its sewage treatment plant (STP) to monitor organic pollutants in wastewater. These tests are essential for assessing the quality of treated water, ensuring it aligns with environmental discharge standards. BOD levels, indicating organic matter presence, range from 3.2 to 4.7 mg/L, while COD levels, measuring total oxidizable compounds, range from 4.32 to 8.4 mg/L. This routine monitoring ensures that TAT's wastewater management meets strict environmental standards, demonstrating the academy's commitment to responsible water discharge and sustainability.