REPORT ON SEWAGE TREATMENT PLANT

1. Introduction

PSG Institute of Technology and Applied Research (PSG iTech), Coimbatore, has established an on-campus Sewage Treatment Plant (STP) with a capacity of 500 KLD to treat the wastewater generated from its academic buildings, hostels and other facilities. The plant treats sewage to a quality suitable for reuse, thereby reducing the demand for fresh water and preventing the discharge of untreated wastewater into the environment. The treated water is reused for sprinklers and garden irrigation within the campus. This initiative reflects the PSG iTech commitment to water conservation, pollution control and sustainable campus development.



2. Treatment Process

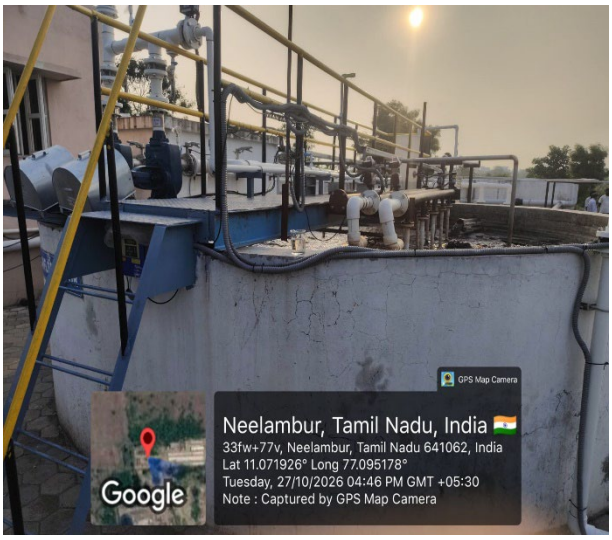
The STP employs a biological treatment process coupled with membrane filtration. The treatment sequence is as follows:

1. **Aeration Tank:** Air is supplied to the microorganisms present in the tank to enable biological treatment of the sewage. The wastewater is retained in the aeration tank for approximately 8 hours.
2. **Membrane Bioreactor (MBR) Unit:** Membranes separate the treated water from the suspended solids, ensuring high-quality purification of the effluent.
3. **Treated Water Storage:** The filtered water is collected and stored in tanks and is ready for reuse.
4. **Sludge Drying:** Excess sludge generated during treatment is separated and dried in sludge drying beds for safe disposal.
5. **Treated Water Reuse:** The treated water is supplied to sprinklers and the campus garden for landscaping.

3. Photographs of the Sewage Treatment Plant



Aeration Tank



MBR Unit



Treated Water Storage



Sludge Drying Bed



Treated Water used for Landscaping

4. Plant Performance

The recorded performance of the sewage treatment plant is summarised below:

Parameter	Recorded Value
Average Inflow (Sewage Received)	262 KL/day
Average Outflow (Treated Water)	189 KL/day
Treated water outflow as a share of inflow	85 %
Energy Consumed	451 kWh/day

5. Contribution to Sustainable Development Goals

The PSG iTech sewage treatment plant supports the following United Nations Sustainable Development Goals (SDGs):

SDG 6 – Clean Water and Sanitation: Ensures treatment of wastewater and promotes safe reuse of treated water.

SDG 11 – Sustainable Cities and Communities: Supports environmentally sustainable institutional infrastructure and waste management.

SDG 12 – Responsible Consumption and Production: Encourages efficient water use through recycling and reuse.

SDG 13 – Climate Action: Promotes resource-efficient operations and reduced environmental impact.

6. Conclusion

The sewage treatment plant at PSG iTech, treating an average of 262 KL of sewage per day and recovering about 189 KL/day of treated water, demonstrates the commitment to water conservation and pollution control. Through biological treatment and membrane filtration, the plant produces treated water that is reused for landscaping within the campus, while excess sludge is dried for safe disposal. The initiative contributes to a greener, more sustainable campus and reinforces PSG iTech's commitment to environmentally responsible institutional operations.