



**DEPARTMENT OF CHEMICAL ENGINEERING
COIMBATORE INSTITUTE TECHNOLOGY
COIMBATORE – 641 014**

***SMART INDIA HACKATHON REPORT
THIRD YEAR B.TECH CHEMICAL ENGINEERING
11.12.2024 – 15.12.2024***



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Smart India Hackathon 2024 was organized by the Ministry of Education's Innovation Cell (MIC) in order to crowdsource solutions for improving governance and quality of life and provide young citizens with an opportunity to co-create and present innovative solutions to India's pressing needs. A team of 6 Students and 2 faculty members from the Department of Chemical Engineering, from Coimbatore Institute of Technology has participated in the Smart India Hackathon (SIH) 2024 under Ministry of Jalsakthi Hardware Edition Grand Finale, held at Panipat Institute of Engineering and Technology, Haryana, from December 11th and 15th, 2024.

Based on the problem statement “ Bacto Pen “ was designed, fabricated and demonstrated in the SIH event. This pen helps in detecting the bacterial count especially *E.Coli* the major bacterial contaminant present in water especially during rainy seasons. It was specifically designed using Arduino as well as ESP-32 WROOM 32 D. The data were stored in Cloud and could be retrieved further. The entire set up was cased into 3-D pen using a 3 D printer. This innovative approach helps in detecting the specific count level of bacteria so as to use by people in order to prevent water borne diseases.



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