



NO.NCNUM/252/2023

Date: 21/9/2023

**NOTICE**

**Ph.D. Thesis Open Defense (Viva-voce Examination) of**

**Mr. Rajesh Surykant Belgamwar**

Supervisor: Dr. Pradip B. Sarawade

**Title of Thesis:** Carbon Dioxide Capture and Utilization Using Functionalized Nanomaterials as Sorbent-Cum

This doctoral dissertation addresses the pressing concern of CO<sub>2</sub> emissions contributing to climate change. The research introduces innovative sorbents-catalyst hybrids designed for sustainable CO<sub>2</sub> capture and conversion, with a specific emphasis on pre-combustion techniques. Furthermore, it investigates the utilization of CO<sub>2</sub> in the production of valuable chemicals while also tackling the challenges associated with renewable energy storage. The integration of nanomaterials emerges as a pivotal factor in enhancing both CO<sub>2</sub> capture and conversion processes. The overarching goal of this thesis is to make meaningful contributions to sustainable CO<sub>2</sub> mitigation by employing a range of approaches, including oxidative dehydrogenation, pre-combustion capture, and thermal as well as photothermal reduction.

**Date:** 27.09.2023

**Time:** 11:30 am

**Zoom Link:**

<https://us06web.zoom.us/j/85095636101?pwd=hq5Mlp3STFFBALDnuwDaD92IF9x0qK.1>

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