



# APPLIED PHYSICS DEPARTMENT

FACULTY OF TECHNOLOGY AND ENGINEERING  
THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA  
VADODARA – 390 001. GUJARAT, INDIA.  
DST-FIST & UGC-DRS Sponsored Department

Date: 19/08/2021

## Certificate by the Supervisor

This is to certify that the work incorporated in the Ph. D. thesis entitled “Synthesis and Characterization of LaX (X = O, S, F) Compounds and their Application in the field of Photoluminescence and Upconversion materials” submitted by Mr. Kevil Shah, comprises the results of independent and original investigations carried out by the candidate under my supervision.

Guide

Dr. B. S. Chakrabarty

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