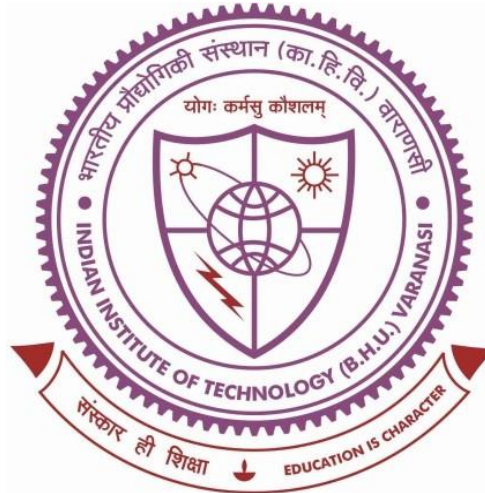


LARGE-SCALE SIMULATION OPTIMIZATION FOR SUSTAINABLE RIVER-AQUIFER EXCHANGES



Thesis submitted in partial fulfillment for the
Award of Degree

Doctor of Philosophy

By

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CERTIFICATE

It is certified that the work contained in the thesis titled “**LARGE SCALE SIMULATION OPTIMIZATION FOR SUSTAINABLE RIVER-AQUIFER EXCHANGES**” by **SHREYANSH MISHRA** has been carried out under my supervision and that this work has not been submitted elsewhere for a degree.

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DECLARATION BY THE CANDIDATE

I, **SHREYANSH MISHRA**, certify that the work embodied in this thesis is my own bona fide work and carried out by me under the supervision of **Prof. Anurag Ohri** and **Dr. Mariem Kacem-Boureau** from **Dec 2020** to **Dec 2024** at the *Department of Civil Engineering, Indian Institute of Technology (BHU) Varanasi*. The matter embodied in this thesis has not been submitted for the award of any other degree/diploma. I declare that I have faithfully acknowledged and given credits to the research workers wherever their works have been cited in my work in this thesis. I further declare that I have not willfully lifted up any other's work, paragraphs, text, data, results, etc., reported in journals, books, magazines, reports dissertations, thesis, etc., or available at websites and included them in this thesis and cited as my own work.

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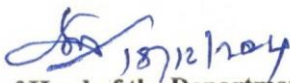


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Shreyansh Mishra

DEDICATED TO MY PARENTS

*(Mr Chandra Shekhar Mishra & Mrs Pushpa
Mishra)*

