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It is further certified that the student has fulfilled all the requirement of Comprehensive Examination, Candidacy and SOTA for the award of Ph.D. Degree

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## **DECLARATION BY THE CANDIDATE**

I, “**Naresh Kumar Sethy**”, certify that the work embodied in this thesis is my own bona fide work and carried out by me under the supervision of “ **Prof P.K. Mishra (Supervisor)** and **Dr. Pradeep Kumar (Co- Supervisor)**” from “July 2015 to July 2020” at the “**Department of Chemical Engineering and Technology**”, 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 the thesis. I further declare that I have not willfully copied any other’s work, paragraph, text, data, results, etc., reported in journals, books, magazines, reports dissertation, thesis etc. or available at website and have not included them in this thesis and have not cited as my own work.

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It is certified that the above statement made by the student is correct to the best of my/our knowledge

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