

DECLARATION BY THE CANDIDATE

I, **Srabanti Jana**, certify that the work embodied in this Ph.D. thesis is my own bona fide work and carried out by me under the supervision of **Prof. Sushil K. Singh** from **July, 2014 to June, 2019** at the **Department of Pharmaceutical Engineering & Technology, Indian Institute of Technology (Banaras Hindu University), 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 credit to the research workers wherever their works have been cited in my work in this thesis. I further declare that, I have not willfully copied any other's work, paragraphs, text, data, results, *etc.* reported in the journals, books, magazines, reports, dissertations, theses, *etc.*, or available at websites and have not included them in this thesis and have not cited as my own work.

Date:

Place: IIT (BHU), Varanasi

Srabanti Jana

CERTIFICATE BY THE SUPERVISOR

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

Prof. Sushil K. Singh

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