

DECLARATION BY THE CANDIDATE

I, **Sachin Kumar Gupta**, certify that the work embodied in this thesis is my own bonafide work and carried out by me under the supervision of **Dr. R. K. Saket** from **24/09/2012** to **11/05/2016** at the Department of **Electrical Engineering**, 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 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, theses, *etc.*, or available at websites and included them in this thesis and cited as my own work.

Date: 11/05/2016

Signature of the Student

Place: VARANASI

(Sachin Kumar Gupta)

CERTIFICATE BY THE SUPERVISOR

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

Supervisor

Dr. R. K. Saket

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Signature of Head of Department