

DECLARATION

I, **Avneet Kumar**, certify that the work embodied in this thesis is my own bonafide work and carried out by me under the supervision of **Dr Santosh K. Singh** from July-2013 to April-2018, at the Departement of Electrical 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 copied any other's work, paragraphs, text, data, results, etc., reported in journals, books, magazines, reports dissertations, theses, etc., or available at web-sites and have not included them in this thesis and have not cited as my own work.

Date:

Place:

(**Avneet Kumar**)

CERTIFICATE BY THE SUPERVISOR

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

Dr. Santosh K. Singh

IIT(BHU), Varanasi

Signature of Head of Department/Coordinator of School