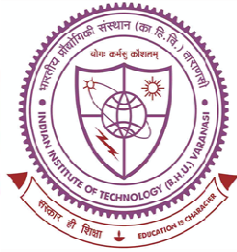


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I, Pradutt Kumar Bharti, certify that the work embodied in this Ph. D thesis is my own bonafide work carried out by me under the supervision of Dr. Manoj Kumar Meshram for a period of from September 2009 to June 2015 in the Department of Electronics Engineering, Indian Institute of Technology (Banaras Hindu University), Varanasi. The matter embodied in this Ph.D. thesis has not been submitted for the award of any other degree/diploma.

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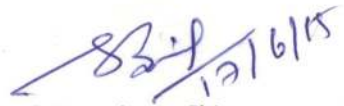
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(Dr. M. K. Meshram)

Supervisor



(Prof. Satyabrata Jit)



Convener of DPGC


(Prof. Satyabrata Jit)




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
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