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## **Forwarded**

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Undertaking from the Candidate

I, Bipin Kumar Singh, research scholar under the supervision of Dr.

Praveen Chandra Pandey, Department of Physics, IIT (BHU) Varanasi give

undertaking that the thesis entitled "Study of Some Novel Aspects of 1-D

Periodic & Quasiperiodic Photonic Crystals with Graded and Dispersive

Materials" submitted by me for the degree of Doctor of Philosophy is a record of

first-hand research work carried out by me during the period of study.

I avail myself to responsibilty such as an act will be taken on the behalf

of me, mistakes, errors of facts, and misinterpretation are of course entirely my

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# COURSE WORK / COMPREHENSIVE EXAMINATION COMPLETION CERTIFICATE

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### Ph.D. PRE-SUBMISSION SEMINAR CERTIFICATE

This is to certify that Mr. Bipin Kumar Singh, a bonafide research scholar of Department of Physics, Indian Institute of Technology (Banaras Hindu University), Varanasi has successfully presented/completed the presubmission seminar on the thesis entitled "Study of Some Novel Aspects of 1-D Periodic & Quasiperiodic Photonic Crystals with Graded and Dispersive Materials" dated 29th June 2016, which is an essential part of his Ph.D. programme.

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