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It is certified that the work contained in the thesis titled “*STUDIES ON TRIBOLOGICAL BEHAVIOUR OF GRAPHENE AS A LUBRICANT*” by “*SUDESH SINGH*” has been carried out under our supervision and that this work has not been submitted elsewhere for a degree.

It is further certified that the student has fulfilled all the requirements of Comprehensive Examination, Candidacy, and SOTA for the award of Ph.D. Degree.

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## DECLARATION BY THE CANDIDATE

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I, "**SUDESH SINGH**", certify that the work embodied in this thesis is my own bonafide work and carried out by me under the supervision of "**Prof. RAJNESH TYAGI, Dr. R. K. GAUTAM, and Prof. JIANBIN LUO**" from "**JULY 2015**" to "**FEBRUARY 2020**", at the "**DEPARTMENT OF MECHANICAL ENGINEERING**", Indian Institute of Technology (BHU), Varanasi, India and "**DEPARTMENT OF MECHANICAL ENGINEERING**", Tsinghua University, Beijing, China. 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 wilfully copied any other's work, paragraphs, text, data, results, *etc.*, reported in 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.

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## CERTIFICATE BY THE SUPERVISORS

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

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**Title of the Thesis:** Studies on Tribological Behaviour of Graphene as a Lubricant

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