

## **CERTIFICATE**

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It is certified that the work contained in the thesis titled **“SYNTHESIS AND TRIBOLOGICAL CHARACTERIZATION OF SELF-LUBRICATING COPPER BASED COMPOSITES”** by **“HEMANT NAUTIYAL”** 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, "**HEMANT NAUTIYAL**", 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. U. S. RAO, and Dr. O.P. KHATRI**" from "**JULY 2015**" to "**JUNE 2020**", at the "**DEPARTMENT OF MECHANICAL ENGINEERING**", Indian Institute of Technology (BHU), Varanasi, India and "**INDIAN INSTITUTE OF PETROLEUM**", CSIR, Dehradun, India. 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.

Date:

Place: Varanasi

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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:** Synthesis and Tribological Characterization of Self Lubricating  
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**Name of the Student:** Hemant Nautiyal

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