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## **CERTIFICATE**

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It is certified that the work contained in the thesis titled **“Synthesis and characterization of magnetic Fe<sub>3</sub>C based nanoparticles and composites”** by *“Asnit Gangwar”* has been carried out under our supervision and this work has not been submitted elsewhere for a degree.

It is further certified that the student has fulfilled all the requirements of Comprehensive, Candidacy and SOTA.

**Dr. N. K. Prasad**  
**(Supervisor)**

Department of Metallurgical Engineering  
Indian Institute of Technology  
(Banaras Hindu University)