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# UNIVERSITY OF NORTH BENGAL

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## DEPARTMENT OF CHEMISTRY

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Dated.....12.06.....2019.....

## CERTIFICATE

I certify that Mrs. SEEMA DWIVEDI has prepared the thesis entitled “**Green Approaches towards transition-metal-catalyzed and metal-free C-C and C-heteroatom coupling reactions**”, for the award of Ph.D. degree of the University of North Bengal, under my guidance and co-guidance of Prof. B. Basu. She has carried out the work at the Department of Chemistry, University of North Bengal. No part of this thesis has formed the basis for the award of any degree or fellowship previously.

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