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CERTIFICATE BY THE SUPERVISOR

This is to certify that the thesis entitled “**Shape and Size Dependent Melting Temperature, Glass Transition Temperature and Catalytic Activation Energy of Embedded Nobel Metal Nanoparticles and Soft Matter**” being submitted to The Maharaja Sayajirao University of Baroda, Vadodara by **Chetna Shivshankar Tiwari** for the award of Doctoral degree in **Applied Physics** is a report of original research work and has been carried out by the candidate under my guidance and supervision.

I further certify that the work has not been submitted either partly or fully to any other University/Institution for the award of any degree

(Arun Pratap)

SUPERVISOR

Place: Vadodara

Date: 29/07/2023

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CERTIFICATE BY THE CO-SUPERVISOR

This is to certify that the thesis entitled “**Shape and Size Dependent Melting Temperature, Glass Transition Temperature and Catalytic Activation Energy of Embedded Nobel Metal Nanoparticles and Soft Matter**” being submitted to The Maharaja Sayajirao University of Baroda, Vadodara by **Chetna Shivshankar Tiwari** for the award of Doctoral degree in **Applied Physics** is a report of original research work and has been carried out by the candidate under my guidance and supervision.

I further certify that the work has not been submitted either partly or fully to any other University/Institution for the award of any degree

(Prafulla K. Jha)

CO-SUPERVISOR

Place: Vadodara

Date: 24/07/2023