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**Date: 16<sup>th</sup> June 2014**

## **CERTIFICATE**

This is to certify that the work presented in the thesis entitled “**Synthesis, characterization and crystal structure of pyrazolone based metal complexes and study of their catalytic activities & fluorescence properties**” submitted by **Mr. Sanjay Parihar** for the award of the degree of **Doctor of Philosophy in Chemistry** is the authentic and original research work carried out by him under my guidance and supervision in the Department of Chemistry, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara 390002, India.

*16/6/2014*

**Dr. Rajendrasinh N. Jadeja**  
Research Supervisor

*[Signature]*

**Prof. N. D. Kulkarni**  
Head

Department of Chemistry

HEAD

CHEMISTRY DEPARTMENT  
FACULTY OF SCIENCE  
THE M. S. UNIVERSITY OF BARODA  
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*[Signature]*

**Dean**

Faculty of Science

Dean  
Faculty of Science  
The M.S. University of Baroda  
Vadodara.



*In Memories of*



*My father (late) Mr. Ghanshyam Parihar*

*(1960-2011)*