



Department of Applied Mathematics

## Applications of Non-Linear Differential Equations in the Study of Superdense Stars on Geometrically Significant Spacetimes

A Thesis Submitted to
The M. S. University of Baroda

For The Degree Of
Doctor of Philosophy

Applied Mathematics

by

Bharat S Ratanpal under the guidance of

Prof. (Dr.) S. Ramamohan

April, 2013