**Abstract**

In this thesis, we look into various aspects of local and global theory of Dynamical Systems. We primarily employ the stable manifold theorem and the Hartman-Grobman theorem. Using these theorems we have determined the qualitative structure of non-linear systems. We have studied the type and the behaviour of hyperbolic and non-hyperbolic critical points of non-linear systems. The stability of the periodic orbits is also determined by the various concepts of dynamical systems thoroughly.