## CERTIFICATE

This is to certify that the thesis entitled "Nitrogen donor heterocycles and their Schiff bases as Analytical agents, complexing agents and corrosion inhibitors" submitted by Bincy Joseph to Calicut University for the award of the degree of Doctor of Philosophy in Chemistry, is the result of bonafide research work carried out by her in the Department of Chemistry, University of Calicut under my guidance and direct supervision. I further certify that the thesis or part therefore has not previously formed the basis for the award of any degree, diploma or associateship of any other university or institution.

Calicut University July 2011 Dr. ABRAHAM JOSEPH