

**Pb (II), Co (II), Ni (II) AND Cu (II), COMPLEXES OF AZO DYES:  
SYNTHESIS, CHARACTERIZATION, ULTRASONIC, SEM/EDS AND  
ELECTRO CHEMICAL BEHAVIOUR**

**Thesis submitted to Periyar University in partial  
fulfilment of the requirements for the award of degree of**

**Doctor of Philosophy in chemistry**

**By**

**V.DHARMALINGAM**

**Under the guidance of**

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**MARCH-2012**

*Dedicated to  
My family*