

**COLLOIDAL CHEMICAL SYNTHESIS OF QUATERNARY CHALCOGENIDE BASED
 $\text{Cu}_2\text{M}_x\text{Sn}_{(1-x)}\text{S}_4$ (M= Ni AND Fe) SEMICONDUCTOR NANOPARTICLES: POTENTIAL
ABSORBANCE LAYER MATERIALS FOR PHOTOVOLTAIC APPLICATION**

THESIS SUBMITTED TO THE BHARATHIAR UNIVERSITY IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

DOCTOR OF PHILOSOPHY IN PHYSICS

By

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PSGR
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DEPARTMENT OF PHYSICS

PSGR KRISHNAMMAL COLLEGE FOR WOMEN

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APRIL 2023