

## CONTENTS

CHAPTER	PAGE
I      INTRODUCTION	1
1.1 General	2
1.2 The Thin Film Technologies	3
1.3 The Tin Chalcogenides : A Brief Survey	13
1.4 The Proposed Work	15
II     THE SYNTHESIS, GROWTH KINETICS AND PHYSICAL STUDIES ON SnS THIN FILMS	21
2.1 Introduction	22
2.2 Experimental Details	23
2.3 Results and Discussion	29
III    STRUCTURAL, MICROSCOPIC , OPTICAL AND TRANSPORT PROPERTIES OF SnS THIN FILMS	38
3.1 Introduction	39
3.2 Experimental Details	39
3.3 Discussion of Results	45
3.4 Conclusions	60

CHAPTER	PAGE
IV THE SnS THIN FILMS :	
PHOTOELECTROCHEMICAL ( PEC ) STUDIES	64
4.1 Introduction	66
4.2 The Photoelectrochemical (PEC) Effect and Requirements of a PEC Cell	67
4.3 Experimental Techniques	70
4.4 Results and Discussion	74
4.5 Conclusions	89
V SUMMARY AND CONCLUSIONS	92
5.1 General	93
5.2 SnS Thin Films: Synthesis and Growth Mechanism	94
5.3 Thin Film Properties	95
5.4 SnS Thin Film Electrode : Photoelectrochemical (PEC) Cell Approach	97
5.5 Remarks	98