

CONTENTS:

Certificate	
Acknowledgement	2
Contents	3
Abstract	4
1. Chapter 1	
1. Introduction	5
1.1 Nanoparticle	6
1.2 Semiconductor Nanoparticle	8
1.3 Doped semiconductor nanoparticle	11
1.4 Quantum Dot	13
1.5 Dilute Magnetic Semiconductor Quantum Dot	14
1.6 Theoretical Aspects	15
1.7 Objective of the work	19
2. Chapter 2	
2 Synthesis Process	20
2.1 Synthesis of ZnS:Mn sample	21
2.2 Synthesis of the ZnS bulk sample	21
2.3 Block diagram of the preparation process	22
3. Chapter 3	
3. Experimental Aspects	23
3.1 XRD spectra and analysis	24
3.2 FTIR spectra and its analysis	26
3.3 UV Spectra of the sample and its analysis	29
3.4 Photoluminescence(PL) studies of the samples	32
3.5 The Transmission Electron Microscope(TEM) picture of the sample	34
4. Chapter 4	
4 Photorefractive Property Study	38
4.1 Photorefractive Characterization of the samples	39
4.2 Designing of the set-up	40
4.3 Data of the experiment	41
4.4 Calculation for refractive indices	43
5. Chapter 5	
5.1 Conclusion	45
5.2 Application and future prospects	46
5.3 Present Scenario of my work:	46
References	47
Websites	48