INDEX

Abstract \(i\)

Glossary of Symbols \(v\)

List of Tables \(vii\)

List of Figures \(ix\)

Chapter 1: Introduction \((1-10)\)

1.1 Dielectrics \(1\)

1.2 Polar and Non-Polar Molecules \(1\)

1.3 Properties of Dielectrics and their Importance \(2\)

1.4 Dielectric Spectroscopy \(4\)

1.5 Objective of the Present Work \(6\)

References \(8\)

Chapter 2: Different Theories of Dielectrics \((11-32)\)

2.1 Introduction \(11\)

2.2 Theories of Static Permittivity \(11\)

2.3 Theories of Dynamic Permittivity \(17\)

2.4 Different Models of Dynamic Permittivity \(20\)

2.5 Excess Dielectric Properties \(26\)

2.6 Kirkwood Correlation Factor \(28\)

2.7 Bruggeman Mixture Formula \(30\)

References \(31\)

Chapter 3: Experimental Technique and Data Analysis \((33-49)\)

3.1 Introduction \(33\)

3.2 Experimental Setup \(34\)
Chapter 4: Binary Systems

4.1 Introduction 50
4.2 Experimental 51
4.3 AB: Formamide And N,N-dimethylformamide 53
4.4 AC: Formamide And N,N-dimethylacetamide 65
4.5 AD: Formamide And Ethanolamine 77
4.6 AE: Formamide And N,N-dimethylaminoethanol 89
4.7 BC: N,N-dimethylformamide And N,N-dimethylacetamide 101
4.8 BE: N,N-dimethylformamide And N,N-dimethylaminoethanol 113
4.9 CD: N,N-dimethylacetamide And Ethanolamine 125
4.10 CE: N,N-dimethylacetamide And N,N-dimethylaminoethanol 137
4.11 DE: Ethanolamine And N,N-dimethylaminoethanol 149

References 161

Chapter 5: Conclusion

(163-171)