# CONTENTS

## CHAPTER 1: INTRODUCTION TO POLARIZATION OF LIGHT

1.1 Introduction to polarization of light ........................................ 01
1.2 Optical activity ...................................................................... 14
1.3 Principle and working of polarimeter ..................................... 17
1.4 Literature review on polarimeter .......................................... 20

## CHAPTER 2: PC BASED POLARIMETER BASED ON MALUS’S LAW

2.1 Introduction ........................................................................ 38
2.2 Principle and working of polarimeter based on Malus’s law .... 41
2.3 Design of optical system for PC based polarimeter ............... 43
2.4 Design of hardware for PC based polarimeter ....................... 64

## CHAPTER 3: LABVIEW FOR PC BASED POLARIMETER

3.1 Introduction to LabVIEW .................................................. 84
3.2 Algorithms for PC based polarimeter .................................. 93
3.3 Flowcharts for PC based polarimeter ................................ 95
3.4 LabVIEW software for PC based polarimeter ..................... 99
3.4 Description of blocks in the software ................................ 101

## CHAPTER 4: CALIBRATION OF PC BASED POLARIMETER BASED ON MALUS’ LW

4.1 Calibration of PC based polarimeter .................................. 120
4.2 Performance characteristics of PC based polarimeter .......... 125
4.3 Specifications of PC based polarimeter ............................... 130
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Study of different samples</td>
<td>131</td>
</tr>
<tr>
<td>5.2 Conclusions</td>
<td>133</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>134</td>
</tr>
</tbody>
</table>