# Contents

<table>
<thead>
<tr>
<th>Page No.</th>
<th>Dedication</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acknowledgement</td>
<td>II</td>
</tr>
<tr>
<td></td>
<td>Abstract in English</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>Abstract in Arabic</td>
<td>IV</td>
</tr>
<tr>
<td></td>
<td>Contents</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>List of Figures</td>
<td>VII</td>
</tr>
<tr>
<td></td>
<td>List of Tables</td>
<td>VIII</td>
</tr>
<tr>
<td></td>
<td>Glossary</td>
<td>IX</td>
</tr>
</tbody>
</table>

## CHAPTER ONE

### INTRODUCTION

1.1 Introduction
1.2 Sequential Logic Elements
1.3 Concept of Sequential
1.4 Hardware
1.5 Program Language

## CHAPTER TWO

### TYPE OF SEQUENTIAL ELEMENTS

2.1 Type of Sequential Logic
2.1.1 Asynchronous Sequential Circuit
2.1.2 Synchronous Sequential Circuit
2.2 Sequential Logic Element
2.2.1 Latches and Flip-Flops
2.2.2 RS Latch
2.2.3 RS Latch with clock
2.2.4 Set up and hold time
2.2.4.1 Set up time
2.2.4.2 Hold time
2.2.5 D-Latch
2.2.6 JK Latch
2.2.7 T-Latch
2.2.8 JK Master Slave Flip-Flop

## CHAPTER THREE

### SEQUENTIAL CONCEPT

3.1 General
3.2 Concept of Sequential Logic
3.3 Level Sensitive
3.4 Edge Sensitive