# Contents

## Chapter 1  General Introduction  1/1-93

1.1 Introduction to Organic Chemistry  1/1-2  
1.2 Introduction and importance of Medicinal Chemistry  1/3-6  
1.3 About drugs  1/7-12  
1.4 Introduction to heterocyclic chemistry and its service to mankind  1/13-24  
1.5 Introduction to QSAR study and description of QSAR models applied in our study  1/25-26  
1.6 Studies on benzoxazole derivatives  1/27-36  
1.7 Studies on 1,3,4-oxadiazole derivatives  1/37-47  
1.8 Studies on schiff’s base derivatives  1/48-58  
1.9 Spectral studies  1/59-60  
1.10 Introduction to microbes and antimicrobial agents  1/61-62  
1.11 Objectives of the study  1/63  
1.12 Significance of the study  1/64  
1.13 Work plan  1/65-69  
1.14 References  1/70-93  

## Chapter 2  Studies 1,3,4-oxadiazole derivatives  2/1-21

2.1 Introduction and scope of present work  2/1-4  
2.2 Designing the derivatives – Lipinski’s rule of five  2/5  
2.3 Experimental  2/6-7  
2.4 Physical constants for the final derivatives  2/8  
2.5 Characterization  
   Spectral data and interpretation  2/9-12  
2.6 Therapeutic studies – antimicrobial studies  2/13-14  
2.7 Results and discussion  2/15-16  
2.8 Conclusion  2/17  
2.9 References  2/18-21  

## Chapter 3  Studies on Benzoxazole derivatives  3/1-27

3.1 Introduction and scope of present work  3/1-7  
3.2 Designing the derivatives – Lipinski’s rule of five  3/8-9  
3.3 Experimental  3/10-12  
3.4 Physical constants for the final derivatives  3/13  
3.5 Characterization  
   Spectral data and interpretation  3/14-17  
3.6 Therapeutic studies – antimicrobial studies  3/18-19  
3.7 Results and discussion  3/20-22  
3.8 Conclusion  3/23  
3.9 References  3/24-27
Chapter 4  Studies on acetamide clubbed-1,3,4-oxadiazoles  4/1-25
  4.1 Introduction and scope of present work  4/1-6
  4.2 Designing the derivatives – Lipinski’s rule of five  4/7-8
  4.3 Experimental  4/9-11
  4.4 Physical constants for the final derivatives  4/12
  4.5 Characterization  
          Spectral data and interpretation  4/13-16
  4.6 Therapeutic studies – antimicrobial studies  4/17-18
  4.7 Results and discussion  4/19-21
  4.8 Conclusion  4/22
  4.9 References  4/23-25

Chapter 5  Studies on Benzoaxazole-clubbed Schiff bases  5/1-23
  5.1 Introduction and scope of present work  5/1-6
  5.2 Designing the derivatives – Lipinski’s rule of five  5/7
  5.3 Experimental  5/8-9
  5.4 Physical constants for the final derivatives  5/10
  5.5 Characterization  
          Spectral data and interpretation  5/11-14
  5.6 Therapeutic studies – antimicrobial studies  5/15-16
  5.7 Results and discussion  5/17-18
  5.8 Conclusion  5/19
  5.9 References  5/20-23

Chapter 6  Studies on 1,3,4-oxadiazole-clubbed Schiff bases  6/1-26
  6.1 Introduction and scope of present work  6/1-7
  6.2 Designing the derivatives – Lipinski’s rule of five  6/8-9
  6.3 Experimental  6/10-12
  6.4 Physical constants for the final derivatives  6/13
  6.5 Characterization  
          Spectral data and interpretation  6/14-17
  6.6 Therapeutic studies – antimicrobial studies  6/18-19
  6.7 Results and discussion  6/20-21
  6.8 Conclusion  6/22
  6.9 References  6/23-26

Summary