## Abbreviation

## Chapter-I: Introduction

- Drug Discovery and design 003
- Drugs and Their Action 004
- Routes of administration, the pharmaceutical phase 005
- The pharmacokinetic phase 008
- Drug Discovery and Drug Development 010
- Phase I clinical studies 012
- Phase II clinical studies 012
- Phase III clinical studies 013
- Synthesis of drugs 013
- Mechanisms of drug action 014
- Chemotherapy 015
- Ideal characteristics of chemotherapeutics agents 015
- Mechanism of action of chemotherapeutic agents 016

## Chapter-II: Literature Survey

**PART-A: Studies on Adamantan based Thiazoles and Thiazolidine Derivatives**

- Introduction 018
- Antiviral Adamantane Derivatives 020
- Antimicrobial Adamantane Derivatives 025
- CNS Activity of Adamantane Derivatives 026
- Miscellaneous Activities of Adamantane Derivatives 027
Chapter-III: Experimental

PART-A: Experimental Studies on Adamantan based Thiazoles and Thiazolidine Derivatives

General procedure to Synthesis of Adamantan-1-yl-[4-(4-nitro-phenyl)-thiazol-2-yl]-amine 094

Section-I: Preparation of 2-(Adamantan-1-yl)-{4-[4-(benzylidene-amino)-phenyl]-thiazol-2-yl}-amino)-acetamide 096
Section-II: Preparation of 2-{Adamantan-1-yl-[4-(4-amino-phenyl)-thiazol-2-yl]-amino}-N-phenyl-acetamide

Experimental procedure

Section-III: Preparation of 2-(Adamantan-1-yl-{4-[4-(benzylidene-amino)-phenyl]-thiazol-2-yl}-amino)-N-propyl-acetamide

Experimental procedure

Section-IV: Preparation of 2-(Adamantan-1-yl-{4-[4-(4-oxo-2-phenyl-thiazolidin-3-yl)-phenyl]-thiazol-2-yl}-amino)-N-phenyl-acetamide

Experimental procedure

PART-B: Experimental Studies on Iso-Quinoline based 1,2,4-triazole derivatives

General procedure for synthesis of 1-Phenyl-2-(5-phenyl-1H-[1,2,4]triazol-3-yl)-1,2,3,4-tetrahydro-isoquinoline

Section-I: Preparation of 1-Morpholin-4-yl-2-[5-phenyl-3-(1-phenyl-3,4-dihydro-1H-isoquinolin-2-yl)-[1,2,4]triazol-1-yl]-ethanone

Physical data of 1-(Sec-amine)-4-yl-2-[5-phenyl-3-(1-phenyl-3,4-dihydro-1H-isoquinolin-2-yl)-[1, 2, 4] TRIAZOL-1-yl]-ethanone
Experimental procedure

**Section-II:** Preparation of N-Phenyl-2-[5-phenyl-3-(1-phenyl-3,4-dihydro-1H-isooquinolin-2-yl)-[1,2,4]triazol-1-yl]-acetamide

Physical data of N-(Aryl)-2-[5-phenyl-3-(1-phenyl-3,4-dihydro-1H-isooquinolin-2-yl)-[1,2,4]triazol-1-yl]-acetamide

Experimental procedure

General procedure for synthesis of 2-[5-(4-Nitro-phenyl)-1H-[1,2,4]triazol-3-yl]-1-phenyl-1,2,3,4-tetrahydro-isoquinoline

**Section-III:** Preparation of Benzylidene-{4-[2-ethyl-5-(1-phenyl-3,4-dihydro-1H-isooquinolin-2-yl)-2H-[1,2,4]triazol-3-yl]-phenyl}-amine

Physical data of Aryl-{4-[2-ethyl-5-(1-phenyl-3,4-dihydro-1H-isooquinolin-2-yl)-2H-[1,2,4]triazol-3-yl]-phenyl}-amine

Experimental procedure

**Section-IV:** Preparation of N-{4-[2-Ethyl-5-(1-phenyl-3,4-dihydro-1H-isooquinolin-2-yl)-2H-[1,2,4]triazol-3-yl]-Aryl}-benzamide

Physical data of N-{4-[2-Ethyl-5-(1-phenyl-3,4-dihydro-1H-isooquinolin-2-yl)-2H-[1,2,4]triazol-3-yl]-Aryl}-benzamide

Experimental procedure

**PART-C: Experimental Studies Studies on Chromen based thiazolidin derivatives**

General procedure for synthesis of 2-Amino-1,4-dihydro-cyclopenta[c]chromen-1-carbonitrile

**Section-I:** Preparation of N-(1-Cyano-1,4-dihydro-cyclopenta[c]chromen-2-yl)-benzamide

Physical data of N-(1-Cyano-1,4-dihydro-cyclopenta[c]chromen-2-yl)-ARYL/ALKYL amide
Experimental procedure

**Section-II:** Preparation of N-(1-Cyano-1,4-dihydro-cyclopenta[c]chromen-2-yl)-benzenesulfonamide

Physical data of N-(1-Cyano-1,4-dihydro-cyclopenta[c]chromen-2-yl)-aryl/alkyl-sulfonamide

Experimental procedure

**Section-III:** Preparation of 2-(Benzylidene-amino)-1,4-dihydro-cyclopenta[c]chromene-1-carbonitrile

Physical data of 2-(Aryl-amino)-1,4-dihydro-cyclopenta[c]chromene-1-carbonitrile

Experimental procedure

**Section-IV:** Preparation of 2-(5-Benzylidene-4-oxo-2-phenyl-thiazolidin-3-yl)-1,4-dihydro-cyclopenta[c]chromene-1-carbonitrile

Physical data of 2-(5-aryl-4-oxo-2-phenyl-thiazolidin-3-yl)-1,4-dihydro-cyclopenta[c]chromene-1-carbonitrile

Experimental procedure

**Chapter-IV: Result and discussion**

**Section-I: Spectroscopic analysis**

IR Spectroscopy introduction

PMR spectroscopy introduction

Mass spectroscopy introduction

IR spectral study

NMR spectral study

Mass spectral study

**Section II: Biological Evaluation**