

# Contents

Declaration by the candidate	i
Certificate	ii
Acknowledgements	iii
Abstract	1
<b>1 Introduction</b>	<b>4</b>
1.1 Differential Equations . . . . .	5
1.2 Motivation . . . . .	7
1.3 Summary of the Thesis . . . . .	9
<b>2 Second Order Quasilinear Neutral Delay Differential Equations with “Maxima”</b>	<b>13</b>
2.1 Introduction . . . . .	14
2.2 Oscillation Results . . . . .	15
2.3 Existence of Nonoscillatory Solutions . . . . .	21
2.4 Examples . . . . .	26
<b>3 Third Order Half-linear Neutral Differential Equations with “Maxima”-I</b>	<b>29</b>
3.1 Introduction . . . . .	30

	3
3.2 Oscillation Results . . . . .	31
3.3 Examples . . . . .	40
<b>4 Third Order Half-linear Neutral Differential Equations with “Maxima”-II</b>	<b>41</b>
4.1 Introduction . . . . .	42
4.2 Oscillation Results . . . . .	43
4.3 Examples . . . . .	50
<b>5 Third Order Nonlinear Neutral Delay Differential Equations with “Maxima”</b>	<b>52</b>
5.1 Introduction . . . . .	53
5.2 Oscillation Results . . . . .	54
5.3 Examples . . . . .	61
<b>6 Fourth Order Nonlinear Neutral Differential Equations with “Maxima”</b>	<b>63</b>
6.1 Introduction . . . . .	64
6.2 Existence of Nonoscillatory Solutions . . . . .	65
6.3 Oscillation Results . . . . .	71
6.4 Examples . . . . .	74
<b>Bibliography</b>	<b>76</b>
<b>Papers Covering the Content of the Thesis</b>	<b>89</b>