

Table of contents

Abbreviations	v
List of symbols	vii
1 General Introduction	1
1.1 Prelude	1
1.2 Literature Survey	2
1.3 Research objectives	5
1.4 Organisation of the thesis	5
2 Preliminaries	9
2.1 Introduction	9
2.2 Near-rings and N -groups	10
2.3 DN -groups	12
2.4 Fuzzy sets	13
2.5 Intuitionistic Fuzzy sets	14
2.6 Conclusion	18
3 Uniserial and Bezout character of distributive N-group	21
3.1 Introduction	21
3.2 Uniserial N -groups	22
3.3 Bezout N -groups	31

3.4 Conclusion	39
4 Distributive character of multiplication N-groups	43
4.1 Introduction	43
4.2 Localized N -groups	44
4.3 Multiplication N -groups	53
4.4 Conclusion	61
5 Intuitionistic Fuzzy aspects of DN-groups and weak DN-groups	65
5.1 Introduction	65
5.2 Intuitonistic fuzzy DN -groups	66
5.3 Intuitionistic fuzzy weak DN -groups	73
5.4 Conclusion	75
6 Intuitionistic fuzzy aspects of multiplication N-groups	79
6.1 Introduction	79
6.2 Prerequisite	80
6.3 Intuitionistic Fuzzy Multiplication N -groups	82
6.4 Conclusion	92
7 Conclusion and Future Scope of Research	93
7.1 Introduction	93
7.2 Summary and original Contribution of the thesis	94
7.2.1 Relation between DN -group and uniserial N -group	94
7.2.2 Relation between Multiplication N -group and DN -Group	94
7.2.3 Relation between Intuitionistic Fuzzy DN -group and Weak DN -group	95
7.2.4 Relation between Intuitionistic Fuzzy Multiplication N -group and DN Group	95
7.3 Future Scope of the Work	96
References	97

List of Research Papers presented in Conferences and Seminars	107
List of Research Papers Accepted/ Published	109
First page of paper 1	111
First page of paper 2	112
First page of paper 3	113