

CLASSIFICATION OF FUZZY SUBGROUPS OF A DIHEDRAL GROUP OF ORDER $2pqr$ FOR DISTINCT PRIMES p, q AND r

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Abstract

This paper is a sequel to our two papers entitled *Distinct Fuzzy Subgroups of some Dihedral Groups* [6] and *Distinct Fuzzy Subgroups of the dihedral group D_{p^n}* [7]. In this paper we classify fuzzy subgroups of the dihedral group D_{pqr} where p, q and r are distinct primes. Further we present formulae for the number of (i) distinct maximal chains of subgroups, (ii) distinct fuzzy subgroups and (iii) distinct isomorphic classes of fuzzy subgroups under our equivalence and isomorphism. Illustrative examples are presented.

Key Words : *Dihedral group, Equivalence, Isomorphism, Fuzzy subgroup, Maximal chain, Key-chain, Distinguishing factor.*

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