Summary

The main object of the work presented here is to determine the irreducible projective characters of Weyl groups of types S_ℓ, A_ℓ, B_ℓ, and D_ℓ of certain factor sets.

An explict formulas for these characters derived using a Clifford's theory can be found in [1]. An independent approach is given here which does not use Clifford's theory. We shall first determine the number of α- regular classes and then construct the same number of inequivalent irreducible projective characters with factor set α.

The following is a brief description of the contents of chapters.

In chapter 1 we establish the necessary notation and terminology. Also we list a number of results in the theories of partitions and projective representation of finite groups which will be used in the rest of the thesis .

Chapter 2 is completely devoted to determine the irreducible projective characters of the symmetric groups S_ℓ and the Alternating groups A_ℓ with all factor sets.

In chapter 3, explict formulas for the irreducible projective characters of the Weyl groups of type B_ℓ are obtained with respect to the factor set (-1,-1,-1), (1,-1,-1), (1,1,1) .

In chapter 4, we obtain the irreducible projective characters of the Weyl groups of type D_ℓ with respect to factor sets (-1,-1), (1,-1).