

Introduction

With this essay we wish to characterise the class of the c.p.o.'s for which the semigroups of endomorphisms is regular.

This study would not be possible without the contribute of mathematicians, who allowed the growing of Algebra in several ways, namely, Clifford and Preston [3], who in 1961 studied the semigroup of uses of any set in it self. In 1989, Adams and Gould [1] took back this study and particularised it to c.p.o.'s, considering also the regularity of semigroup of endomorphisms and Blyth [2], who in 1995, characterised the semigroup ordered endomorphisms of a c.p.o..

So, the present work is divided in three parts, being the main goal of the first chapter, to familiarise the reader with the used notation, present some examples of c.p.o.'s in which we will lean on, as well as some definitions and results required to the expansion of the theme subject. In the next chapter we will confirm that the class of c.p.o.'s P for which $End(P)$ is regular is composed only by six kinds of c.p.o.'s. This way we will present the different functions that allow to testify the regularity of the semigroup of the endomorphisms. Finally, in the third chapter, we will add the order to the semigroup of the endomorphisms and we will study in which conditions such semigroup is regular and mainly ordered.