



## INTISARI

### **RING BERSIH- $g(x)$ KUAT**

Oleh

FRISCA MAREYTA PONGO

13/353819/PPA/04243

Diberikan  $R$  dengan elemen satuan, notasi  $C(R)$  menyatakan himpunan elemen center ring  $R$ , dan polinomial tertentu  $g(x) \in C(R)[x]$ . Ring  $R$  dikatakan bersih- $g(x)$  kuat, jika setiap elemen  $r \in R$  dapat dinyatakan sebagai  $r = e + u$  dengan  $g(e) = 0$ ,  $u$  merupakan suatu unit di  $R$ , dan  $eu = ue$ . Dalam tesis ini dibahas sifat-sifat ring bersih- $g(x)$  dan ring bersih- $g(x)$  kuat serta hubungan keduanya. Dibahas juga konsep tentang ideal bersih. Dari konsep ini, diperkenalkan definisi dan beberapa sifat ideal bersih- $g(x)$  beserta contohnya. Pada ring  $R$  disyaratkan polinomial  $g(x)$  memiliki sekurang-kurangnya dua akar di  $R$  agar ring  $R$  bersih- $g(x)$ . Akan tetapi diberikan contoh untuk ideal di ring  $R$  yang bersih- $g(x)$  meskipun  $g(x)$  hanya memiliki satu akar di  $R$ .



## ABSTRACT

### ON STRONGLY $g(x)$ -CLEAN RINGS

By

FRISCA MAREYTA PONGO

13/353819/PPA/04243

Let  $R$  be an associative ring with identity, let  $C(R)$  denoted the center of  $R$ , and let  $g(x)$  be a polynomial in the polynomial ring  $C(R)[x]$ . Ring  $R$  is called strongly  $g(x)$ -clean if every element  $r \in R$  can be written as  $r = e + u$  with  $g(e) = 0$ ,  $u$  is a unit of  $R$ , and  $eu = ue$ . The relation between strongly  $g(x)$ -clean rings and strongly clean rings are determined, some general properties of strongly  $g(x)$ -clean rings and clean ideal are given. In this paper, by the definition and properties of clean ideal, we introduce definition and properties of  $g(x)$ -clean ideal with some examples of it. If ring  $R$  is  $g(x)$ -clean we must have that  $g(x)$  has at least two roots in  $R$ . But, for an ideal in ring  $R$ , it can be  $g(x)$ -clean although  $g(x)$  only has one root in  $R$ . The example for this case is given.