Abstract

-Let R be a commutative ring with unity, let M be an R-module. A non zero submodule N of an R-module M is secondary if for each r ⬚ R, r ⬚ either r N = N or r n N = 0 for some n ⬚ Z + . In this research, we study ٠٠ the secondary submodule [as a dual notion of primary submodules]. Also we give many properties about this concept. Finally we introduced a weekly secondary submodule [as a generalization of secondary submodule] where a non-zero submodule N of M is weakly secondary submodule when Nab ⊆ K, where a, b ∈ R and K is a submodule of M .implies either Na ⊆ K or Nb n ⊆ K for some positive integer n