

UTUMI MODULES

Mohamed F. Yousif

The Ohio State University

ABSTRACT. A right R -module M is called a Utumi Module (U -module) if, whenever A and B are submodules of M with $A \cong B$ and $A \cap B = 0$, there exist two summands K and T of M such that $A \subseteq^{ess} K$, $B \subseteq^{ess} T$ and $K \oplus T \subseteq^{\oplus} M$. The class of U -modules is a simultaneous and strict generalization of three fundamental classes of modules; namely the quasi-continuous, the square-free and the automorphism-invariant modules. In this talk we show that the class of U -modules inherits some of the important features of the aforementioned classes of modules. For example, a U -module M is clean if and only if it has the finite exchange property, if and only if it has the full exchange property.