

Generalization of Schur's Lemma in Ring Representations on Modules over a Commutative Ring

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Abstract. Let R, S be rings with unity, M a module over S , where S a commutative ring, and $f: R \rightarrow S$ a ring homomorphism. A ring representation of R on M via f is a ring homomorphism $\mu: R \rightarrow \text{End}_S(M)$, where $\text{End}_S(M)$ is a ring of all S -module homomorphisms on M . One of the important properties in representation of ring is the Schur's Lemma. The main result of this paper is partly the generalization of Schur's Lemma in representations of ring on modules over a commutative ring

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