

To compute $\text{rad}(\mathbf{T}_n(k))$ for any ring k , we can treat $\mathbf{T}_n(k)$ as a triangular ring with $R = k$, $S = \mathbf{T}_{n-1}(k)$, and $M = k^{n-1}$ (as (R, S) -bimodule). Using fact that $\text{rad}(T) = \begin{pmatrix} \text{rad}(R) & M \\ 0 & \text{rad}(S) \end{pmatrix}$ and invoking an inductive hypothesis, we see that $\text{rad}(\mathbf{T}_n(k))$ consists of $n \times n$ upper triangular matrices with diagonal entries from $\text{rad}(k)$.