NOTATIONS

All rings are associative with identity $1 \neq 0$. We list some standard notations:

\begin{itemize}
\item $=$ equals.
\item $\neq$ does not equal.
\item $\in$ belongs to.
\item $\notin$ does not belong to.
\item $\Rightarrow$ implies.
\item $\subseteq$ subset.
\item $\subset$ proper subset.
\item $\supset$ superset.
\item $\simeq$ isomorphic.
\item $\leq$ less than or equal to.
\item $\geq$ greater than or equal to.
\item $M \oplus N$ Direct sum of modules $M$ and $N$.
\item $\mathbb{N}$ The set of positive integers.
\item $\mathbb{Z}$ The ring of integers.
\item $\mathbb{Q}$ The field of rational numbers.
\item $\mathbb{C}$ The field of complex numbers.
\item $R$ An associative ring with identity $1 \neq 0$.
\item $P(R)$ The prime radical of $R$.
\item $N(R)$ The set of nilpotent elements of $R$.
\item $\text{Spec}(R)$ The set of prime ideals of $R$.
\item $\text{MinSpec}(R)$ The set of minimal prime ideals of $R$.
\end{itemize}
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$Ann(J)$</td>
<td>The annihilator of a subset $J$ of an $R$-module $M$.</td>
</tr>
<tr>
<td>$Assas(M)$</td>
<td>The assassinator of a uniform $R$-module $M$.</td>
</tr>
<tr>
<td>$M_R$</td>
<td>A right module $M$ over a ring $R$.</td>
</tr>
<tr>
<td>$R_R$</td>
<td>A ring $R$ viewed as a right module over itself.</td>
</tr>
<tr>
<td>$Ass(M_R)$</td>
<td>The set of associated primes of $M_R$.</td>
</tr>
<tr>
<td>$\mathbb{H}$</td>
<td>The ring of quaternions.</td>
</tr>
<tr>
<td>$ACC$</td>
<td>Ascending Chain Condition.</td>
</tr>
</tbody>
</table>