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Title:	On integrally closed simple extensions of valuation rings
Authors:	Jakhar, A. (/jspui/browse?type=author&value=Jakhar%2C+A.) Khanduja, S.K. (/jspui/browse?type=author&value=Khanduja%2C+S.K.) Sangwan, N. (/jspui/browse?type=author&value=Sangwan%2C+N.)
Keywords:	Valuation ring Algebraic integers Trinomial
Issue Date:	2018
Publisher:	Elsevier B.V.
Citation:	Journal of Pure and Applied Algebra, 222(4), pp. 889-899
Abstract:	Let $v$ be a Krull valuation of a field with valuation ring $R_v$ . Let $\theta$ be a root of an irreducible trinomial belonging to $R_v$ . In this paper, we give necessary and sufficient conditions involving only $R_v$ for $R_v$ to be integrally closed. In the particular case when $v$ is the $p$ -adic valuation of the field of rational numbers, and $\theta$ is a root of an irreducible trinomial, then it is shown that these conditions lead to the characterization of primes which divide the index of the subgroup in $R_v$ , where $R_v$ is the ring of algebraic integers of $K$ . As an application, it is deduced that for any algebraic number field $K$ and any quadratic field $L$ not contained in $K$ , we have $R_v$ if and only if the discriminants of $K$ and $L$ are coprime.
URI:	<a href="https://www.sciencedirect.com/science/article/pii/S0022404917301093">https://www.sciencedirect.com/science/article/pii/S0022404917301093</a> ( <a href="https://www.sciencedirect.com/science/article/pii/S0022404917301093">https://www.sciencedirect.com/science/article/pii/S0022404917301093</a> ) <a href="http://hdl.handle.net/123456789/2080">http://hdl.handle.net/123456789/2080</a> ( <a href="http://hdl.handle.net/123456789/2080">http://hdl.handle.net/123456789/2080</a> )
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