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This paper investigates necessary and sufficient conditions under which a real sequence $\gamma_0, \gamma_1, \gamma_2, \dots$ has the following property: If the real polynomial $\sum_{k=0}^n a_k L_k^{(\alpha)}(x)$ has only real zeros, then the polynomial $\sum_{k=0}^n \gamma_k a_k L_k^{(\alpha)}(x)$ also has only real zeros, where $L_k^{(\alpha)}(x)$ is the k^{th} generalized Laguerre polynomial given by the relation $k! L_k^{(\alpha)}(x) := x^{-\alpha} e^x D^k (e^{-x} x^{k+\alpha})$. (Received September 08, 2008)