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Ibrahim A. Salehbhai* (ibrahimmaths@gmail.com), Department of Mathematics, S.V.
National Institute of Technology, Surat-395 007, Surat, 395007, India. *Laguerre Transform in two
Variables and its properties.*

Laguerre polynomials play an important role in the field of science, engineering, numerical mathematics, quantum mechanics, communication theory and numerical inverse Laplace transform. Some explicit evaluation of integrals involving Laguerre polynomials are required in applied areas of mathematical and physical sciences. In 1960, Debnath [2] first introduced the Laguerre transform of one variable and its properties; he also discussed its applications in study of heat conduction, diffusion equation and to the oscillations of a very long and heavy chain with variable tension. Debnath et al. [3] reported this work in their book. Recently Shukla et al. [1] introduced Laguerre transform in two variables. Present talk is extension of this paper [1] and some new properties are to be discussed. In the last section we have also examined the MAPLE/MATHEMATICA implementation. [1] A.K. Shukla, I.A. Salehbhai and J.C. Prajapati, On the Laguerre transform in two variables, *Integral Transforms and Special Functions*, Vol. 20, No. 6, June 2009, 459-470. [2] Debnath, L.: On Laguerre transform, *Bull. Cal. Math. Soc.*, 55 (1960) 69-77. [3] L. Debnath and D. Bhatta, *Integral Transforms and their Applications*, Chapman & Hall/CRC Press, Boca Raton/London/New York, 2007. (Received August 07, 2009)