1057-44-17 **Ibrahim A. Salehbhai*** (ibrahimmaths@gmail.com). *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. 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. Some applications of this transforms in partial differential equation have also been discussed. [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, 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 November 07, 2009)