1042-53-10 **Ramesh Sharma*** (`rsharma@newhaven.edu`), Department Of Mathematics, University Of New Haven, West Haven, CT 06516. *Conformal geometry of contact metric manifolds.* Preliminary report.

A contact (k,μ)-manifold is a generalization of a Sasakian manifold, and was introduced by Blair, Koufogiorgos and Papantoniou (1995) as a contact metric manifold $M(\eta,\xi,\varphi,g)$ satisfying the nullity condition: $R(X,Y)\xi = k(\eta(Y)X - \eta(X)Y) + \mu(\eta(Y)hX - \eta(X)hY)$, where η is the contact 1-form, ξ the Reeb vector field, φ an associated (1,1) tensor, g the associated contact metric, R the curvature tensor of g, $h = \frac{1}{2}\pounds_\xi \varphi$, and k,μ are constant reals. For $k=1$, M is a Sasakian manifold. Okumura (1962) showed that a complete connected Sasakian manifold of dimension > 3 is isometric to a unit sphere. This was generalized by Sharma and Blair (1996) on a contact $(k,0)$-manifold. In this paper we prove the following result "If a contact (k,μ)-manifold M admits a non-isometric conformal motion, then either (i) M is 3-dimensional, or (ii) $\mu = 1$". We also show an application of this result within the frame-work of space-time as the warped product $R \times_f M$, where R is the cosmic time line, f a positive function on R, and M the unit tangent bundle of a real space form. (Received June 04, 2008)