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If φ is a tensor field of type $(1, 1)$, $\xi_1, \xi_2, \dots, \xi_r$ are linearly independent vector fields, and $\eta^1, \eta^2, \dots, \eta^r$ are 1-forms on a manifold M satisfying $\varphi^2 = Id - \eta^\alpha \otimes \xi_\alpha$ and $\varphi(\xi_\alpha) = 0$, then $(M, \varphi, \xi_\alpha, \eta^\alpha)$ is an almost r -paracontact manifold. A linear connection Γ on M is an almost r -paracontact connection if the structure tensor field φ , vector fields ξ_α , and 1-forms η^α are parallel with respect to Γ . In this paper, the necessary and sufficient conditions for existence of a symmetric almost r -paracontact connection are found. Examples of symmetric almost r -paracontact connections are presented. Some applications of almost r -paracontact connections are discussed. (Received September 21, 2009)