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Abstract : The logistic distribution has found several important applications in many fields. A truncated type I generalized logistic distribution could be particularly useful as a lifetime model by requiring a positive domain . In this thesis, the truncated type I generalized logistic distribution is described and some of its properties investigated. Some limiting and transformed distributions of this distribution are presented. One of the objectives of this study is the estimation of the parameters, reliability and hazard rate functions, using the maximum likelihood method. Newton-Raphson iteration scheme is used to solve the likelihood equations. The uniformly minimum variance unbiased estimate of a function of the shape parameter is obtained assuming that the other parameters are known. Bayesian prediction bounds for some order statistics of future observations from the truncated type I generalized logistic distribution are obtained. The prior information about the true value of the shape parameter is measured by informative and non-informative- priors assuming that the other parameters are known. Numerical examples are used to illustrate the procedure