

## AN INVENTORY MODEL FOR WEIBULL DISTRIBUTED DETERIORATING ITEMS UNDER RAMP TYPE DEMAND AND PERMISSIBLE TRADE CREDIT POLICY

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### **ABSTRACT**

*In a classical inventory economic order quantity (EOQ) model, the stock is depleted due to both market demand and deterioration. Many inventory models are developed for items under variable rate of deterioration. The two parameter Weibull distributed term is a representation of constant, time dependent linear and non-linear, increasing and decreasing rate of deterioration. Again the demand rate is assumed here as time dependent in beginning of cycle and then becomes constant as passage of time. Shortages are allowed and fully backlogged. Moreover the trade credit policy is a win-win payment strategy for sharing profit in the inventory system. This present paper deals with a replenishment policy assuming two parameter Weibull distributed deteriorating items, demand rate a ramp type function of time under permissible trade credit policy. Finally several numerical examples are given to illustrate the model and some particular cases are also discussed along with its' illustrations along with concluding remarks.*

**KEYWORDS:** *Inventory, Weibull Distribution, Deterioration, Ramp Type, Trade Credit and Shortages*

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