

COMMON PRODUCTION CYCLE TIME FOR AN EPQ MODEL WITH CONSTANT LEAKAGE RATE WHERE THE DEMAND IS EXPONENTIALLY DEPENDENT

I. TOMBA AND KH. BROJENDRO

Department of Mathematics, M.U. Canchipur-795003, India

Abstract

In this paper, a production Inventory model is developed with constant leakage rate (that may affect the output during the production as well as sale period) and exponentially dependent demand without shortages. The Economic Production Quantity (EPQ) for items, occurring leakages non instantaneously is considered. It is assumed that a single machine produces single product over an infinite planning horizon. The optimal production cycle time is derived under the general condition for continuous review, exponentially dependent demand without shortages. The model developed is solved by minimizing the production cycle time and illustrated with numerical examples.

Key Words : *EPQ, Leakage rate, Inventory, Exponentially dependent demand, Optimal cycle time, Production period, Sales period.*

AMS Subject Classification : 90B05.

© <http://www.ascent-journals.com>