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COST INVENTORY MODEL CONSIDERING THE INTRODUCTION OF NEW PRODUCTS IN THE MARKET

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Abstract: In this paper, an inventory models has been developed for introducing a new product in the market involving different costs. The demand is assumed as exponentially increasing and production is demand dependent. This proposed model a constant amount was invested for the advertisement to increase demand for new products. A mathematical model is developed by using differential equations. The objective of this model is to find the total cost and to minimize the total cost. The model is illustrated by numerical examples and sensitivity analysis of optimal solution with respect to parameters.

Keywords and Phrases: Inventory model, deterioration, advertisement, Total Cost (TC), Economic order quantity (EOQ).

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1. Introduction

Inventory plays a very important role for any business organization. Inventory management refers to the process of ordering, storing, using, and selling a company's inventory. Its involves so many costs such as ordering, holding, production costs, etc. In previous research various models were investigated for minimizing inventory costs and maximizing the profit. Such as Economic Order Quantity model, deterioration based model, model with demand is a function of time, so on, but in