

FUZZY APPROACH ON A NEAR OPTIMAL SOLUTION FOR PRODUCTION INTEGRATED MODEL UNDER JIT DELIVERY WITH DETERIORATING ITEMS

A. NAGOOR GANI¹ AND G. SABARINATHAN²

P. G. and Research Department of Mathematics,
Jamal Mohamed College (Autonomous),
Tiruchirappalli-620 020, India

Abstract

This paper investigates just in time (JIT) single buyer single supplier integrated inventory model with deteriorating items with multiple deliveries. An alternative method is used to approximate the relationship between supplier's production time and storage time and derives near optimal solution with fuzzy parameters. Demand rate, Production rate, production lot size, delivery size, holding cost, setup cost, deteriorated cost, cost of losing flexibility, fixed cost of losing flexibility, cost reduction for implementing the JIT delivery, fixed and variable transportation cost are taken as triangular fuzzy numbers. A numerical example is given to validate the model. Graded mean integration representation method is used to defuzzify the results.

Key Words : *Integrated deteriorating model, JIT delivery, Transportation cost, Near optimal solution, Triangular fuzzy number, Defuzzification.*