Title:
Providing a Linear Programming Model for Covering Routing Problem with Regard to the Separation of Customer Demand

Abstract:
One approach to reduce the cost of transport is the optimal plan for transportation. Service and product distribution is a major part of transportation costs for many distributing companies. Vehicle Routing Problem (VRP) is an extensive literature study on logistics and has a variety of innovative methods to solving this. In this regard, efficient and optimized routing of vehicles is a very important goal. One of the Vehicle Routing Problems is called “Split delivery vehicle routing problem (SDVRP)”. In the split delivery vehicle routing problem, a customer's demand can be split among several vehicles. In the present thesis, presented one of a special variant of VRP, called Split delivery vehicle routing problem with the aim of reducing cost of transportation. The mathematical model of this problem has presented and validated with GAMS. The problem solved in large-scale, using particle swarm optimization (PSO) algorithm, as a new heuristic algorithm and compared with the exact solution and SA algorithm.

Keywords:
vehicle routing problem, particle swarm optimization algorithm, split delivery